



DIVA system User Manual

Version 1.0.0

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DELIVERING YOUR MESSAGE!

www.ateis-europe.com

ATEİS Europe BV - Sydneystraat 42 - 3047BP ROTTERDAM - NETHERLANDS
Phone +31 (0)10 2088690 - Fax +31 (0)10 2088699
P.O. box 12172, 3004 GD, ROTTERDAM - Chamber of commerce: 24465391 Rotterdam

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1 Introduction

1.1 Welcome



Thank you for choosing ATEİS DIVA. We here at ATEİS hope you will enjoy our technology as much as we enjoyed developing and building it.

This files has been written for the ATEİS DIVA software version: v3.0.1.50 and higher.

This manual is intended to provide the user with the necessary understanding of our system architecture as well as guide users through the configuration process.

This manual can be updated at any time without prior notice in order to keep it up to date.

If you find errors in this manual or would like to improve on the presentation, feel free to submit mistakes, suggestions or questions by sending an [email](#).

We hope that this Help File Manual will provide you all the information you need. However if you have any questions, feel free to contact us.

1.2 Ateis Presentation

ATEİS has been in the professional audio market for close to thirty years and is viewed as a leading competitor in the Public Address, Voice Alarm, and Professional Audio Market in Europe, Asia, and the Middle East.

▼ Products

The company offers a full range of audio equipment: microphones, preamplifiers, digital processors, digital audio matrixes, loud-speaker monitoring systems, amplifiers, etc. ATEİS designs and manufactures leading products in the voice alarm systems market which have been certified EN60849 compliant by the TÜV and UL listed.

▼ Development

Thanks to a development team of over forty engineers and a close connection to our customer base, we are able to respond rapidly to the demands of our various vertical markets with specific solutions and cutting edge technology. You can rest assured that our technology is always cutting edge with a view to the future.

▼ ATEİS Vertical Markets

- ❖ Transportation (Railways, Subways, Airports)
- ❖ High rise buildings

- ❖ Hotels
- ❖ Restaurants
- ❖ Shopping malls
- ❖ Theme parks
- ❖ Places of worship
- ❖ Stadia
- ❖ Museums
- ❖ Industrial
- ❖ University and campus applications

1.3 EC Declaration of Conformity

Documentation CE marking. This needs to be added to each commercial/technical document



###

EC DECLARATION OF CONFORMITY

Ateis, as manufacturer having sole responsibility, hereby declares that our delivered version of the following product complies with the applicable directives. In case of alterations of the product, not agreed upon by Ateis, this declaration is no longer valid.

EN54-16:2008

Voice Alarm Control and Indicating Equipment (VACIE)

Product: **DIVA8 System VACIE**

Certified options:

- Audible warning
- Manual reset of the voice alarm condition
- Voice alarm condition output
- Indication of faults related to the transmission path of the CIE
- Indication of faults related to voice alarm zones
- Voice alarm manual control
- Interface to external control device(s)
- Emergency microphones
- Redundant amplifiers

Ancillary functions:

- Commercial paging
- Background music distribution

2 Safety Declartion

**Warning**

This sign indicates a potentially hazardous situation that can result in death or serious personal injury.

- ❖ Do not expose the device to extreme temperatures, direct sunlight, humidity, or dust, which could cause fire or electrical shock hazard.
- ❖ Keep away water or other liquids from the device. Otherwise fire or electrical shock may result.
- ❖ Connect the power cord only to an AC outlet of the type stated in this Owner's Manual or as marked on the unit. Otherwise fire and electrical shock hazard results.
- ❖ When disconnecting the power cord from an AC outlet always grab the plug. Never pull the cord. A damaged power cord is a potential risk of fire and electrical shock hazard.
- ❖ Avoid touching power plugs with wet hands. Doing so is a potential electrical shock hazard.
- ❖ Take care for correct polarity when operating the device from a DC power source. Reversed polarity may cause damage to the unit or the batteries.
- ❖ Avoid placing heavy objects on power cords. A damaged power cord is a fire and electrical shock hazard.
- ❖ Do not cut, scratch, bend, twist, pull, or heat the power cord. A damaged power cord is a fire and electrical shock hazard. Ask your ATEİS dealer for replacement.
- ❖ Turn off immediately the unit, remove the power cord from the AC outlet and consult your ATEİS dealer in any of the following circumstances:
 - Smoke, odor, or noise getting out of the unit.
 - Foreign objects or liquids get inside the device.
 - The unit has been dropped or the shell is damaged.
 - The power cord is damaged.

If you continue using the device, fire and electrical shock may result.

- ❖ Do not drop or insert metallic objects or flammable materials into the unit as this may result in fire and electrical shock.
- ❖ Do not remove the device's cover, as there are exposed parts inside carrying high voltages that may cause an electrical shock. Contact your ATEİS dealer if internal inspection, maintenance, or repair is necessary.
- ❖ Do not try to make any modifications to the device. This is a potential fire and electrical shock hazard.
- ❖ Avoid the device's ventilation slots to be blocked. Blocking the ventilation slots is a potential fire hazard.

**Caution**

This sign indicates a potentially hazardous situation that can result in moderate or minor personal injury and/or property damage.

- ❖ To prevent the unit from falling down and causing personal injury and/or property damage, avoid installing or mounting the unit in unstable locations.
- ❖ Leave enough space above and below the unit to provide good ventilation of the device. If the airflow is not adequate, the device will heat up inside and may cause a fire.
- ❖ Operate the device in an environment with a free-air temperature of between 0 °C and 40 °C (32 °F and 104 °F).
- ❖ Turn off all audio equipment when making any connections to the device, and make sure to use adequate cables.
- ❖ Do not use benzene, thinner, or chemicals to clean the device. Use only a soft, dry cloth.
- ❖ If the device is moved from a cold place (e.g., overnight in a car) to a warmer environment, condensation may form inside the unit, which may affect performance. Allow the device to acclimatize for about one hour before use.

3 Quick Start

This topic is designed for "Quick Stat" and is only intent to give a rapid overview of how to start with DIVA. To obtain more precise details on "how to" and for further information about more complex configuration possibilities, please read all topics in this manual.

❖ Basic Setup

Connections and Power Up

- Fireman Microphone
 - Connect the fireman microphone to the connector on the DIVA's front panel.
- Music Sources:
 - Connect a tuner on the Cinch connector labeled 1 under "Music Input" on the rear of DIVA.
 - Connect a CD player on the Cinch connector labeled 2 "Music Input"
- Speaker Lines
 - Connect one speaker line to the "Zone 1" connector. The speaker positive cable should be connected to "LINEA+" and the negative cable to "LINEA-"
 - Connect a second speaker line to the "Zone 1" connector. The speaker positive cable should be connected to "LINEB+" and the negative cable to "LINEB-"
 - If more zones have to be used, please redo the same connection for ZONE2, ZONE3, etc...

- Voice Amplifier

- Connect the "AIN+", "AIN-" and " " from the "VOICE AMP" connect to "Channel 1" amplifier's input.

Note: respect polarity to avoid inversion phase problem.

- Connect the "Channel 1" amplifier"output to the "VOICE AMP" "AOUT and "AOUT-" connectors

Note: respect polarity to avoid inversion phase problem.

- Music Amplifier

- Connect the "AIN+", "AIN-" and " " from the "MUSIC AMP" connect to "Channel 1" amplifier's input.

Note: respect polarity to avoid inversion phase problem.

- Connect the "Channel 2" amplifier"output to the "MUSIC AMP" "AOUT and "AOUT-" connectors.

- Power Supply

- To ensure the surveillance role, the power supply have to be secured.

- Evacuation Button:

- Connect a button between EVAC1+ and EVAC1-.

- ❖ Slave add and set up

The Slave unit is for adding zones, one DIVA master unit can connect with 15 slave units. The maximum is 128 zones per system. The Fig3-1 shows the slave button in DIVA software, press it and you can see the pop-up window as Fig 3.2. Net ID in this table is the same with Slave's knobs on rear panel, the monitor detects the slave units through the ID numbers.

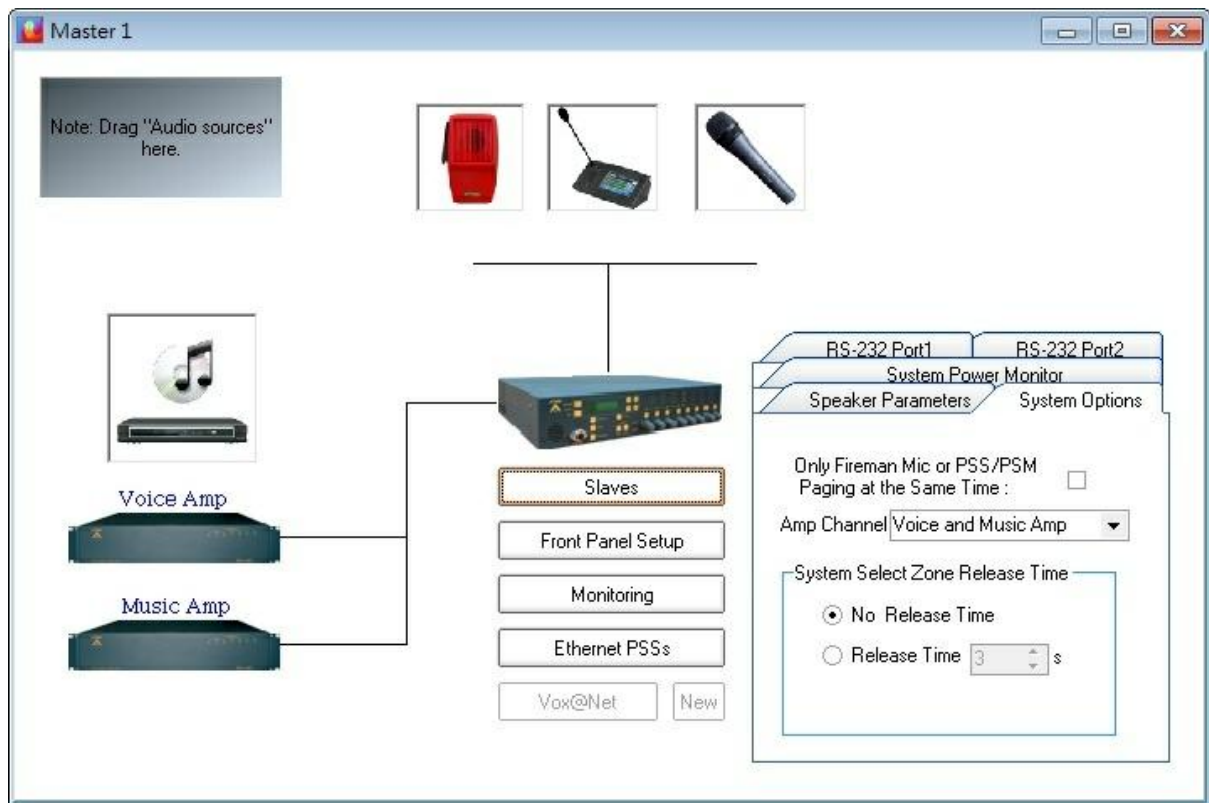


Figure 3-1: Slave add button

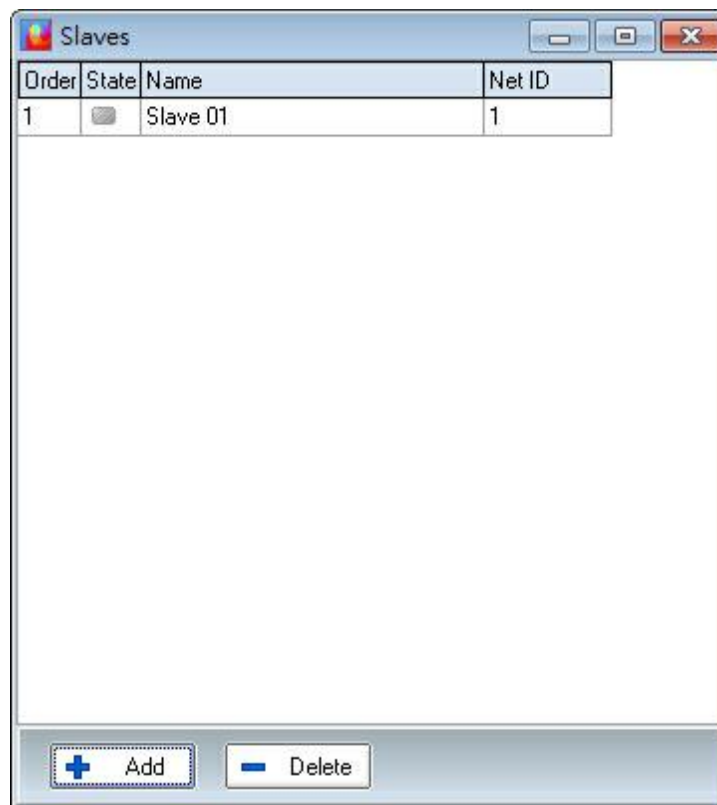
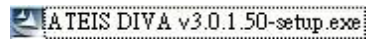


Figure 3-2: Slave list window

❖ Software Start Up

First of all, please install the DIVA which could be found on the Ateis-International website.



After double-clicking the DIVA Setup , please follow the next few step to complete the installation.



Figure 4: DIVA InstallShield Wizard start page

After the installation process complete, launch DIVA software from the Start menu or the desktop shortcut automatically installed.

❖ DIVA Configuration

The first steps to DIVA's configuration, is to set up network parameters and to test communication.

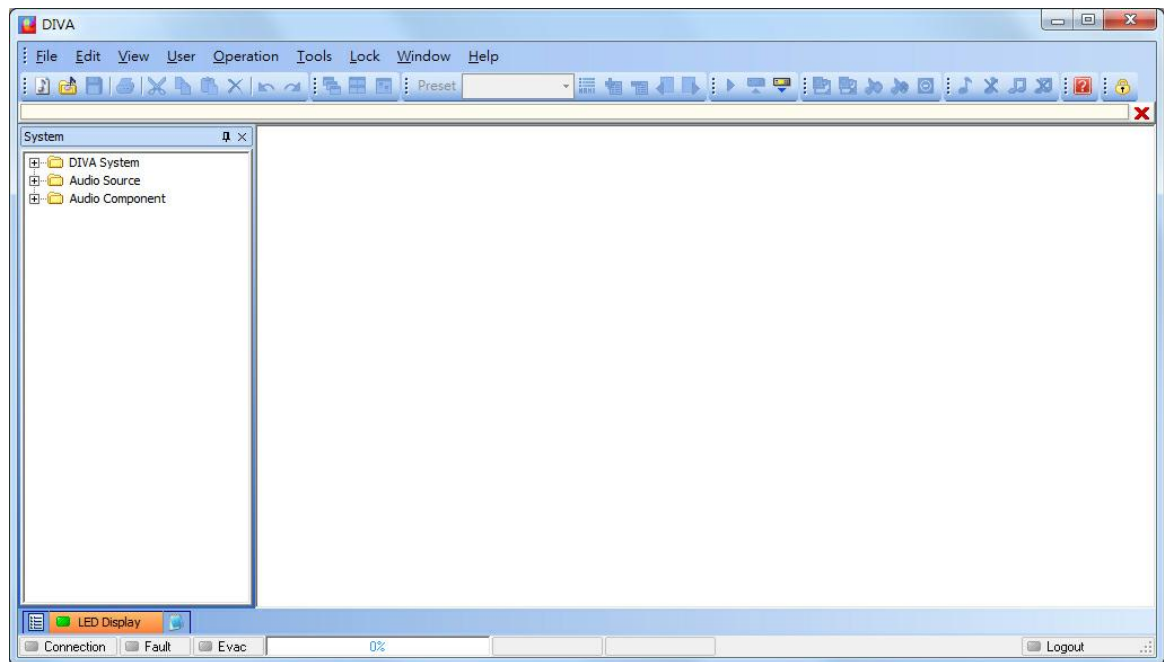


Figure 5: DIVA Software front page

- The start page is represented on Figure 5. A first thing to do is to start a new project by clicking on or by going through the menu file. This will launch a new window named "System" displayed on Figure 7.
- If this is the first installation, please update the DIVA software to the latest version available on our website. In the DIVA software click on the menu "tools-> update". In the update window (Figure 6), verify that the path specified is the one corresponding to the last version software, if not click open and choose the right one. Then click on the update button.
- DIVA software will ask for password. For default users have been set into DIVA:
 - User1: ATEIS1 Password: ATEIS1 User level: 1
 - User2: ATEIS2 Password: ATEIS2 User level: 3
 - User3: ATEIS3 Password: ATEIS3 User level: 3
 - User4: ATEIS4 Password: ATEIS4 User level: 4

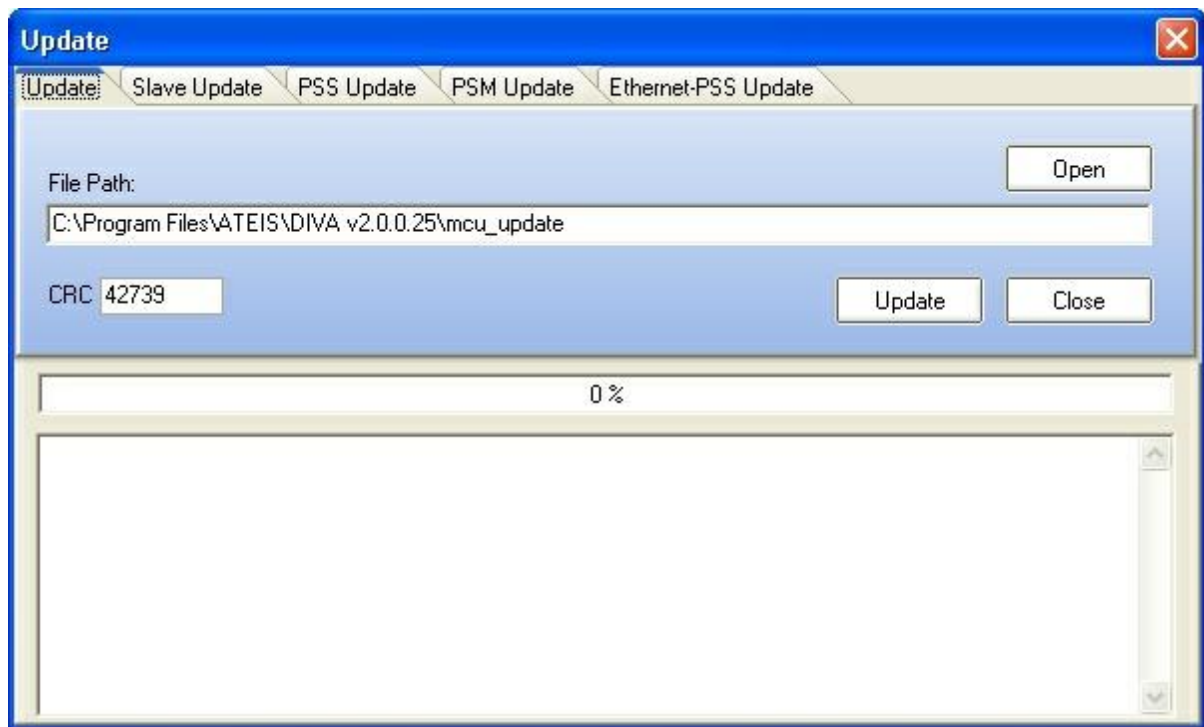


Figure 6: Update window

- Next step is to set the network option. Simply click F12 or menu "Tools->Options". new pop window will appear directly on the network options page (Figure 8). Please check that the network card is one to be used.
- The devices connected to the TCP/IP network have to be detected. Click on the menu "Tools->Device Search". In the new window, click on device "Start Search" button to check if the Network is correctly set up. A list of all networked devices is displayed. If your Master DIVA is not detected, please check cables and verify the IP address assignment.
- Select the Master DIVA you want to work on and then click "Auto Connect". After connection, you will be able to see the IP address of the master on the system window.

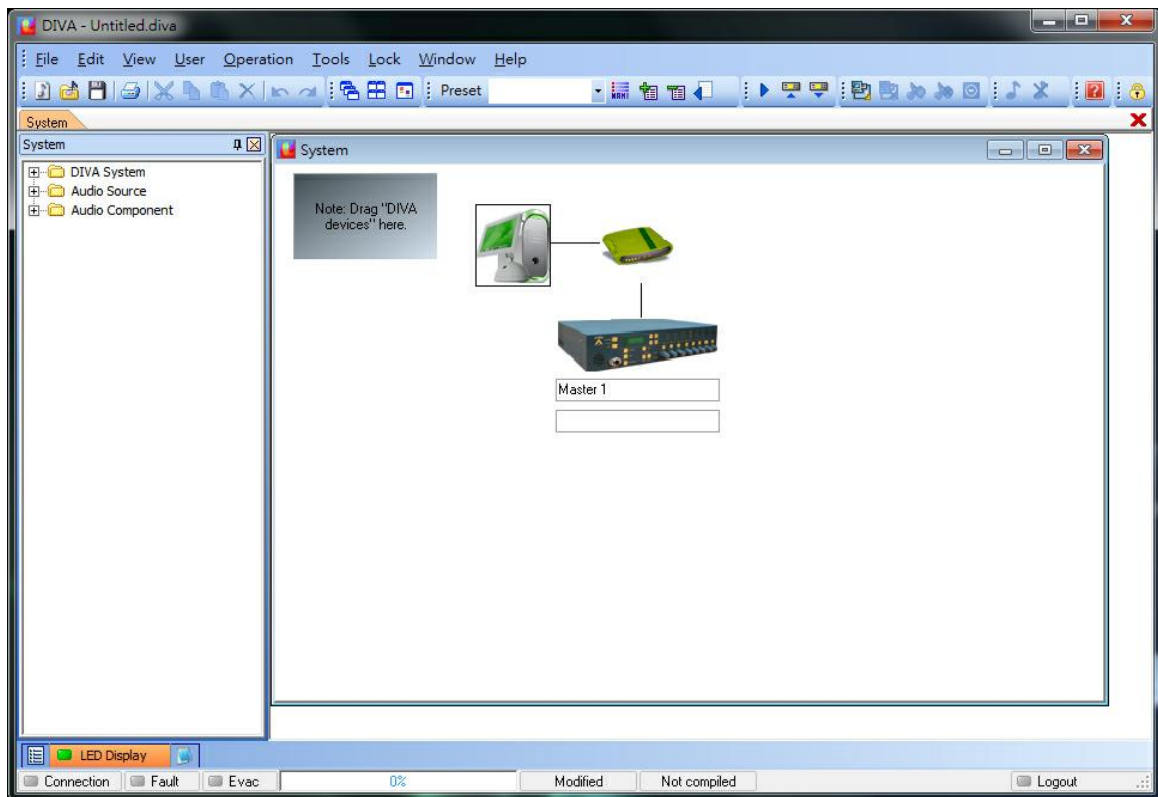


Figure 7: New System

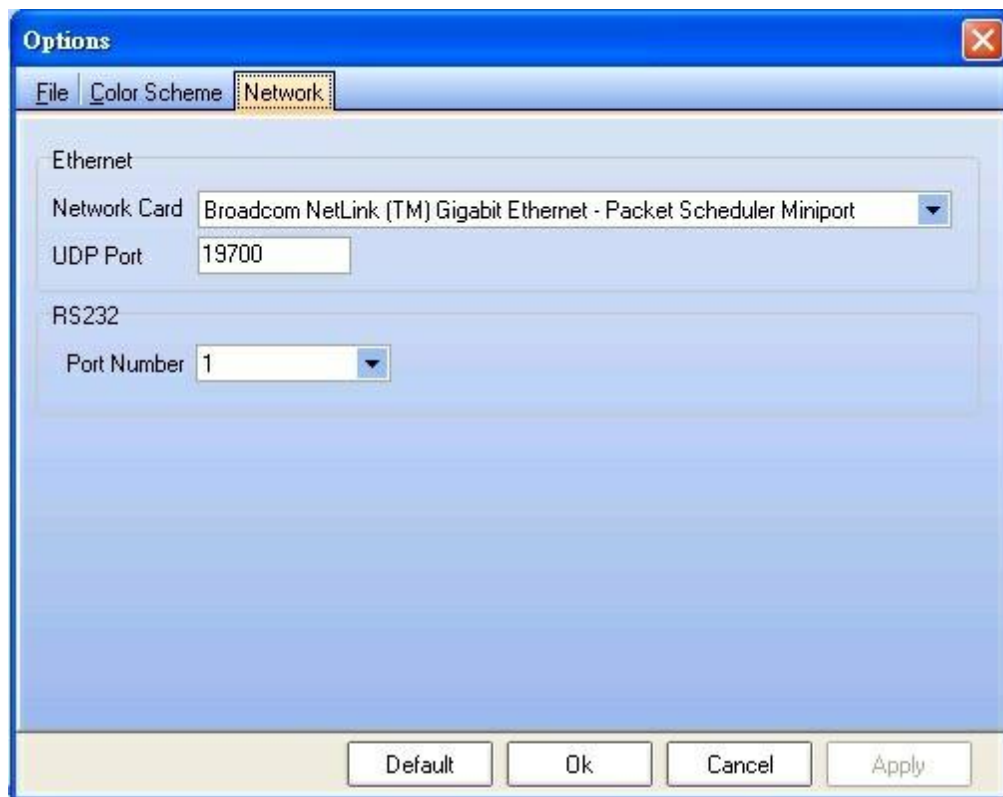


Figure 8: Network options page

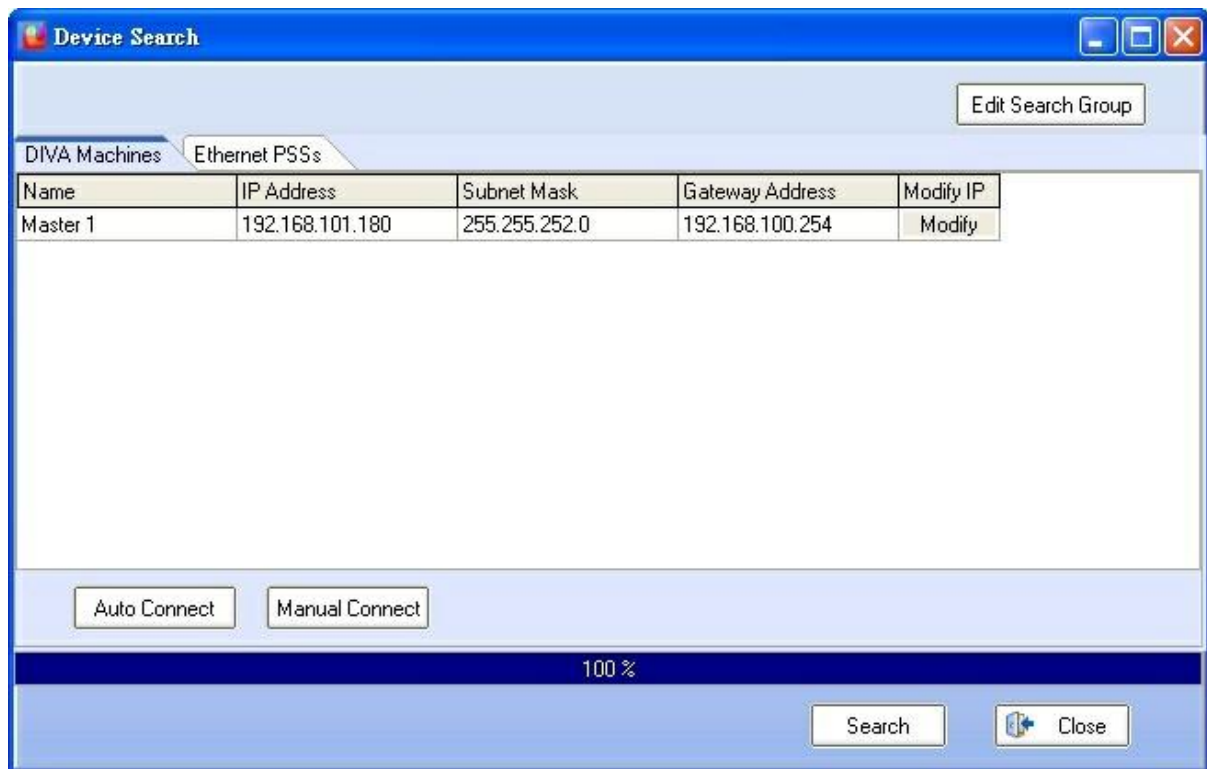


Figure 9: Device Search page

❖ Event Philosophy

For a better understanding of how the DIVA works, a quick "Events" explanation is needed.

Event can be compare to an action. Each action or event can be started by a multiple of different ways: external trigger, modulation detection, etc. Those events are hierarchically organized by priority levels set for each one of them. You also can set permanent event like playing music.

- Music

Now the DIVA connections are configured. The following step is how to set the system for using audio external sources, like tuner, cd player, computer, etc., and assigned them to zone. In the main system page (Figure 7), double click the DIVA icon after having rename DIVA apparel according to your wishes, here DIVA1 (default is "master1"). A "DIVA1" pop window is displayed (Figure 10).

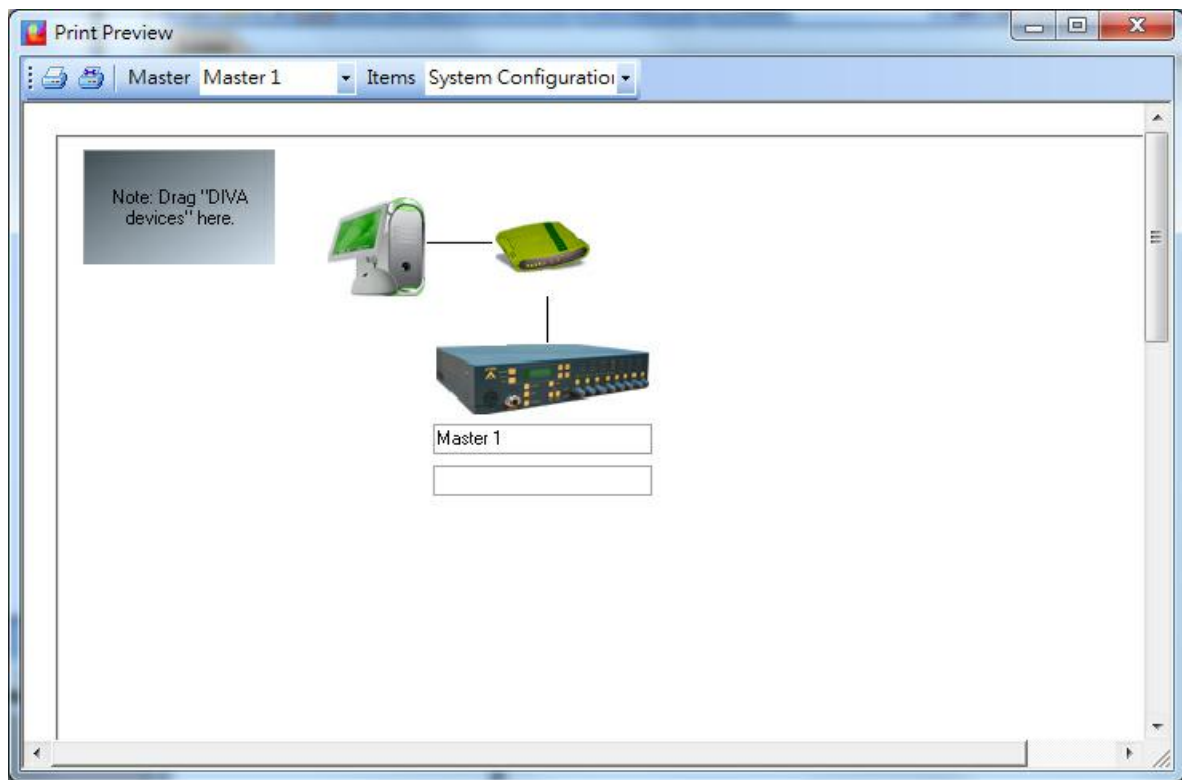


Figure 10: Master page

In the tree folder, click on audio. It will display all the audio sources available for DIVA. Simply drag and drop the music icon on the corresponding drawing in the DIVA1 window (Figure 11). The connection picturing will automatically show that the connection exists.

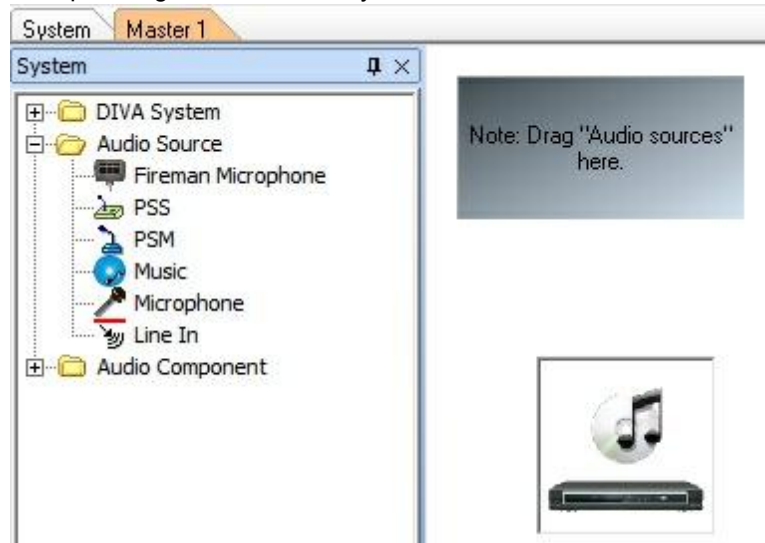


Figure 11: Adding music source

- Double Click on the music source icon to open the "Music Source" window(Figure 12). On the figure, the part that is red framed is for the real time control.
 - In order to achieve your aim, you need to specify some parameters:
 - Select the Route Key mode under Music 1. The music sources will be controllable from

the front panel.

- Click on Edit, for Music1 and Music2, in order to set event's parameters
- Define the priority from 0 to 20, default is 20. **Note:** 0 is the highest priority. Here music has been set to 13.
- The event "Play Music" is created automatically as soon as you configure you music source.

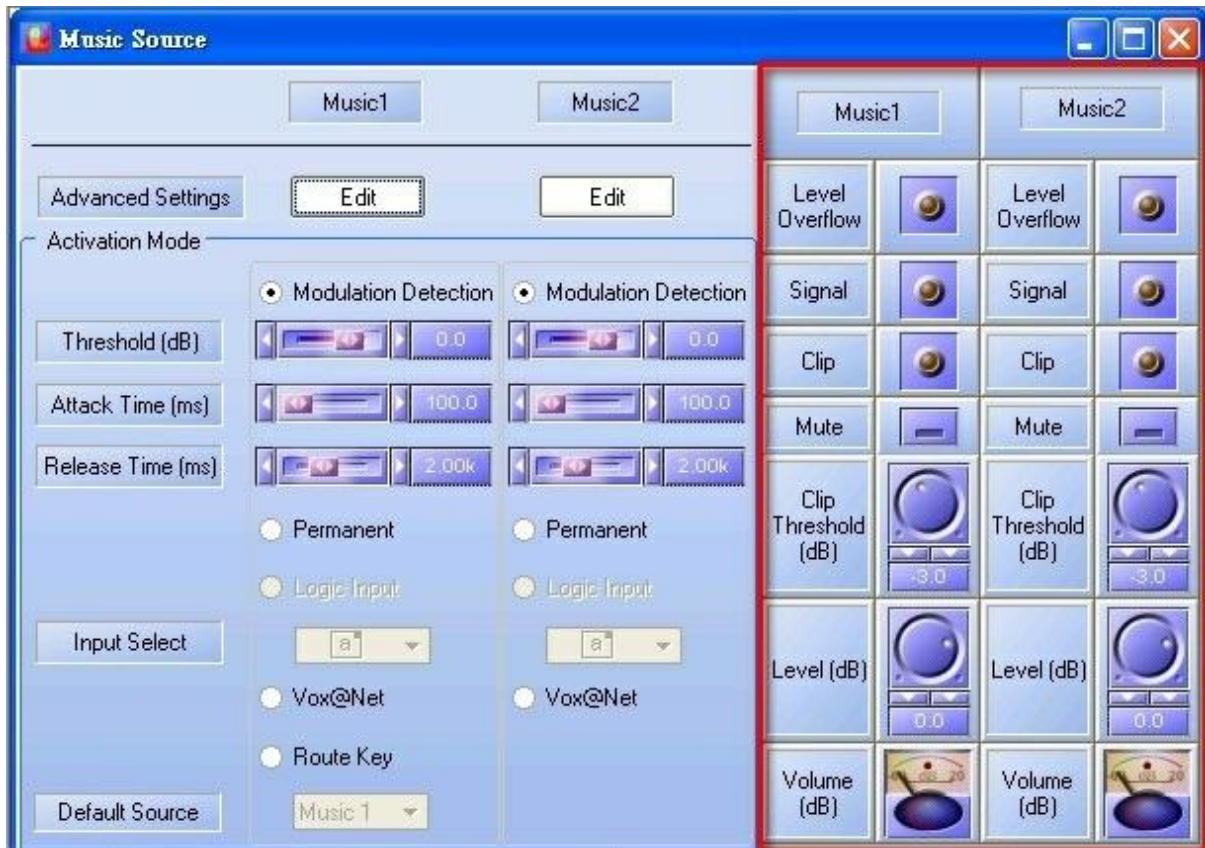


Figure 12: Music Source window

- In the "Advance Setting" page, tick the "Pre-define Zone Enable". Then are able to define the zone where music will be played, here zone 1, 2, 3.
Note: you cannot define different zone for the two music sources.
- Click the OK button.

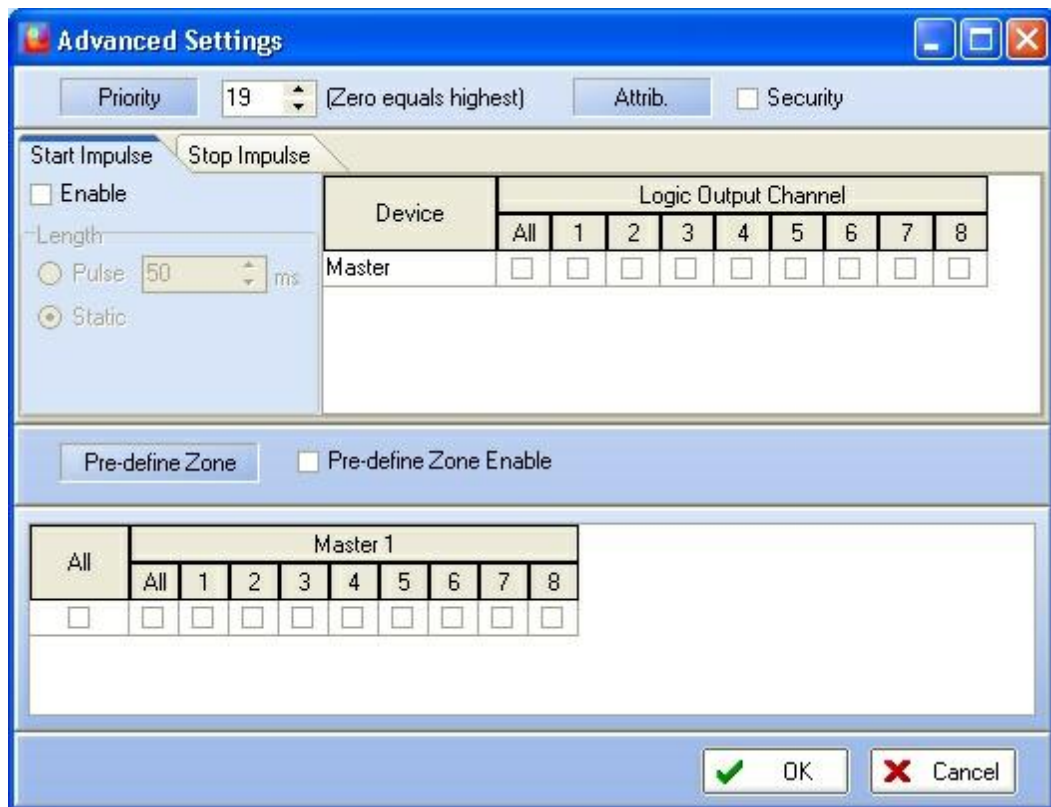


Figure 13: Play Music Event window

- Configure your default source. Choice is between music source 1 and 2 (here 1).

Your system is now configured to play music from the music source 1 and 2. Please save your project before going to next step and close the "Music Source" window.

Note: At this time, you won't be able to hear music before compiling your file and store it into DIVA.

❖ Messages

This section will explain how to set up messages (like alarm, evacuation, test, etc.) and how to use them.

The messages are administered with the so-called "Messages Manager". To add messages to message library, just save your messages in .wav format (16bit, 16kHz) into the "message lib" folder under the "Program Files -> Ateis -> ATEIS DIVA" folder.

To access the messages manager, please follow the next steps.

Click on the menu "view" -> "Message". The message page will display (Figure 14).

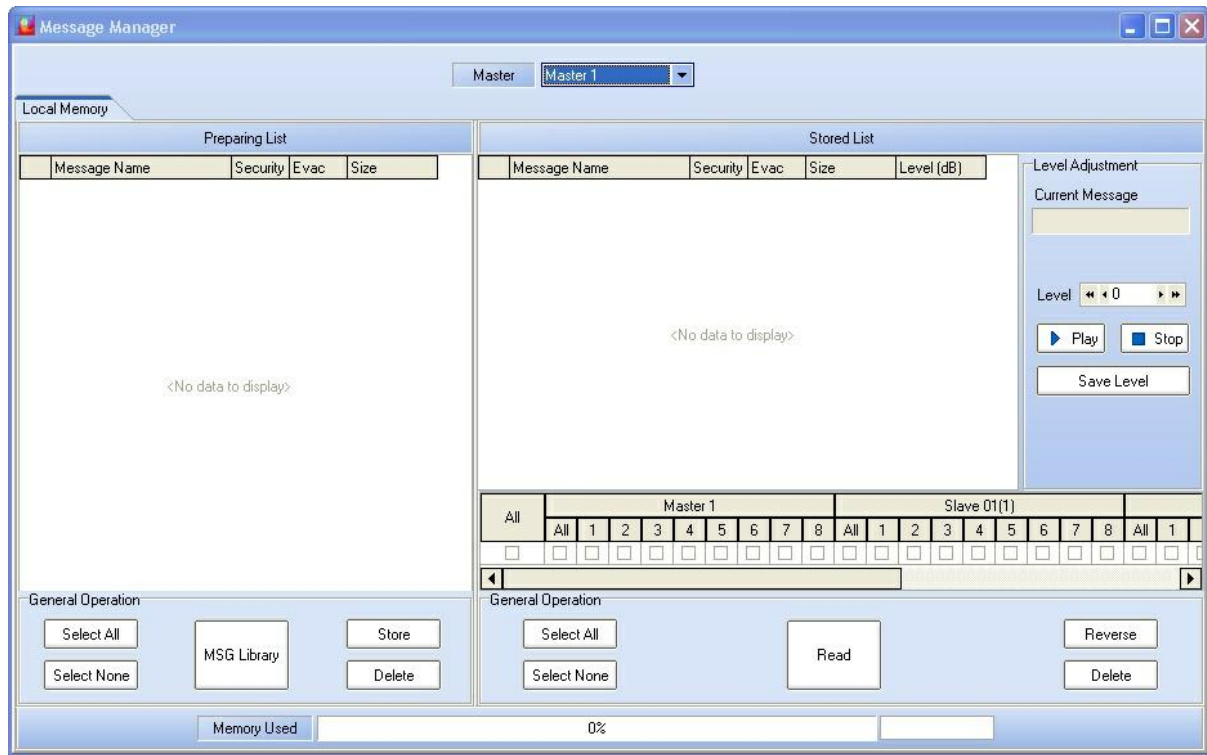


Figure 14: Message Window

- Click on the "MSG Manager" button. A new "Message Library" window appears. In the Library (Figure 15), all the messages in the library files are display. Simply tick the one you want, here all, to import into DIVA and click the "Add to DIVA" button. You will automatically return to Message page.
- Once you are back in the message window, you can select the messages to store in DIVA and specify if there are security messages or not. Simply tick the right cases, and then push the "Store" button. For this example, all of them are selected and security has been desired for "Alarm DE" and "Evacuation EN".

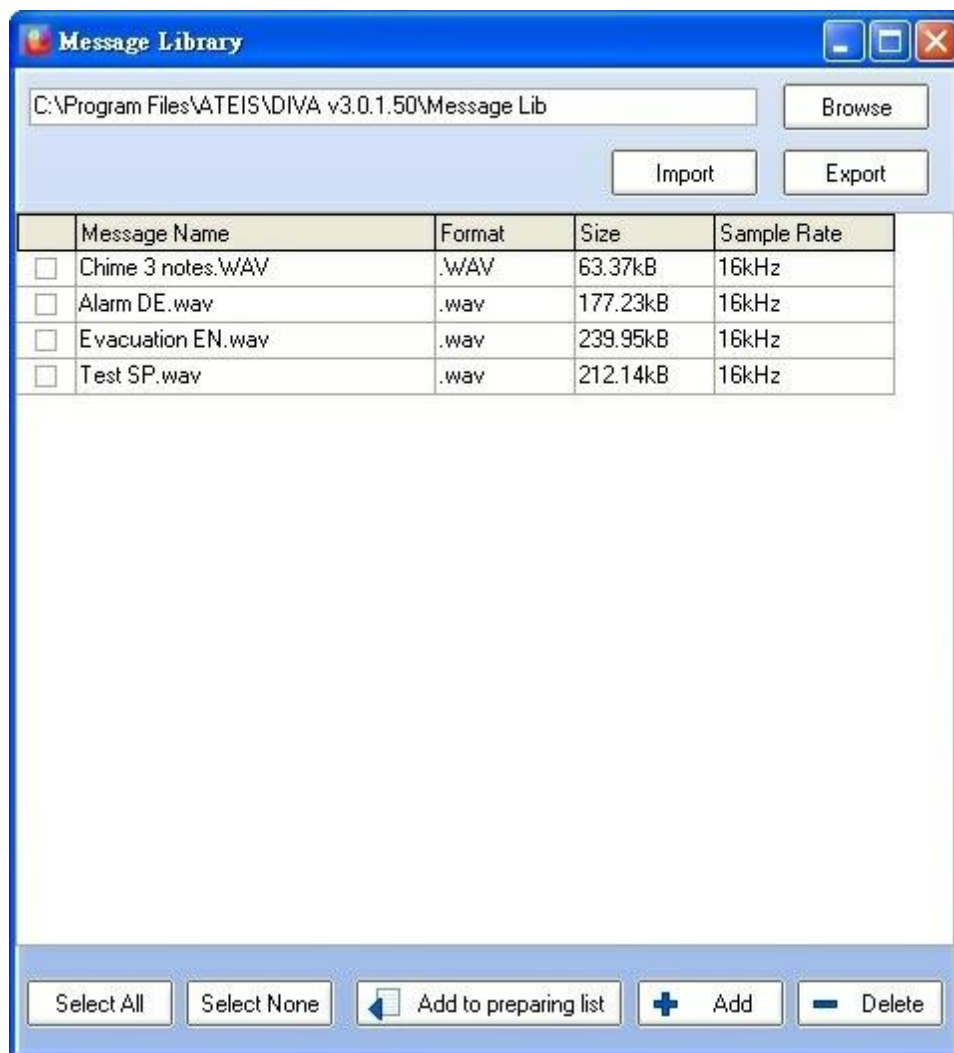


Figure 15: Message Manager Library page

- Close the message page and go back on the "DIVA1" page
- Click, under DIVA icon, the "Front Panel Setup"(Figure 16). You need to assign an event to the message buttons of the front panel (Evac, Alert and Test). For each button, make a new event and then edit the events (example on Figure 17).

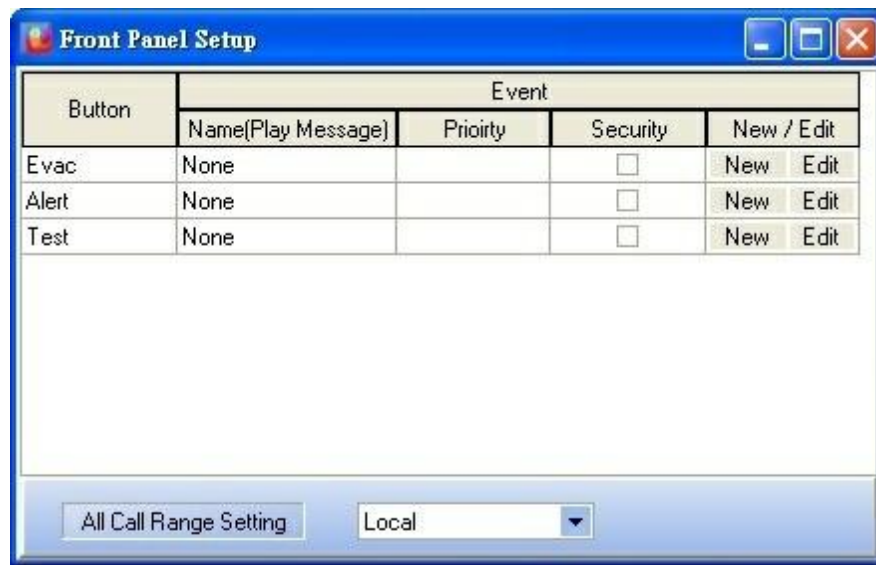


Figure 16:"Front Panel Setup" window

- In dedicated area of "Play Message Event window (Figure 17), change the name, choose a priority and tick if it's a security message or not. Under "Message" emplacement, choose with the drop-down menu the right message for the event. You can also define the "Play Mode" option: peat for ever or repeat for a definable number of time. Please choose between the "cancel all" or "Coexist" option. "Cancel All" consist of cancellation all the messages or events, with a lower priority, that are currently playing in the selected zone. "Coexist" permit to momentarily disable the current message or event and to retrieve it as soon as the one with a higher priority has finished.
- Last thing to do is to define the zone where this message will be played. Here for the evacuation message, every zone are selected.
- Repeat this section for the two more buttons (Alert and Test).
- Close the "Front Panel Setup" window

Play Message Event

Type: Play Message Priority: 20 (Zero equals highest)

Name: Event 1 Attrib. Security

Start Impulse Stop Impulse

☐ Enable

☒ Pulse 50 ms

☐ Static

Device	Logic Output Channel								
	All	1	2	3	4	5	6	7	8
Master	☐	☐	☐	☐	☐	☐	☐	☐	☐

ACK Relay Busy Relay

☐ Enable

Device	Logic Output Channel								
	All	1	2	3	4	5	6	7	8
Master	☐	☐	☐	☐	☐	☐	☐	☐	☐

Message: [Dropdown] Play Mode: ☐ Continuous

Conflict: ☐ Cancel All ☒ Coexist Repeat Times: 1

Pre-define Zone: ☐ Pre-define Zone Enable

All	Master 1								
	All	1	2	3	4	5	6	7	8
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

OK Cancel

Figure 17: "Message Event" edit page

❖ Fireman Microphone

The Fireman microphone is a special monitored microphone. It means that at any time, the connection and the status of the microphone are measured and analyze. If any faults are detected, the front panel "Faults" led will illuminate.

In order to set up the use of the fireman microphone, please do as follow.

- In the DIVA1 window, drag and drop the fireman microphone icon from the tree folder.

- Double click the Fireman Microphone Icon. The "Fireman Microphone" window will open (Figure 18).

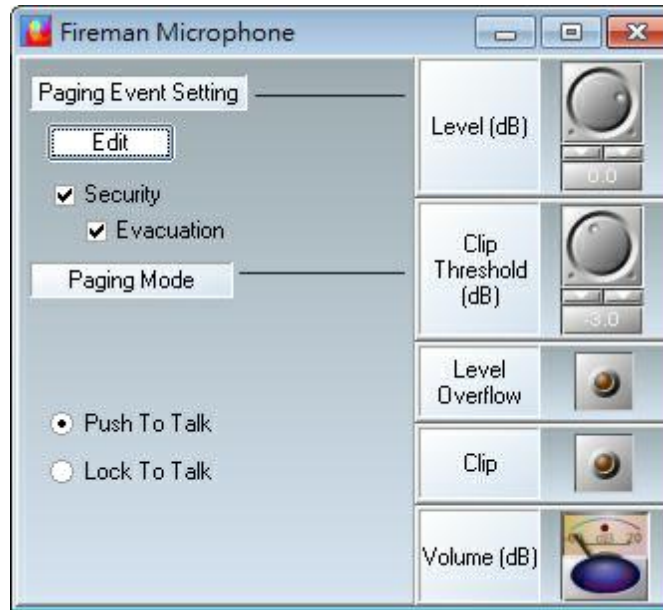


Figure 18: Fireman Microphone window

- As for music, the event corresponding to the fireman microphone is automatically created. Click "Edit". A new pop-up window opens (Figure 19).
- You need now to set the priority of the fireman microphone, by default it is set to 0, and tick security (as his main purpose is to deliver security warning).

Fireman Mic Paging Event

Type: Fireman Mic Paging Priority: 20 (Zero equals highest)

Name: Event 8 Attrb.: ☐ Security

Next Event: None

Start Impulse Stop Impulse

☐ Enable

Length: ☒ Pulse: 50 ms. ☐ Static

Device	Logic Output Channel								
	All	1	2	3	4	5	6	7	8
Master	☐	☐	☐	☐	☐	☐	☐	☐	☐

ACK Relay Busy Relay

☐ Enable

Device	Logic Output Channel								
	All	1	2	3	4	5	6	7	8
Master	☐	☐	☐	☐	☐	☐	☐	☐	☐

Conflict ☐ Cancel All ☒ Coexist

Pre Chime ☐ Pre Chime Enable

Post Chime ☐ Post Chime Enable

Pre-define Zone ☐ Pre-define Zone Enable

All	Master 1								
	All	1	2	3	4	5	6	7	8
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

OK Cancel

Figure 19: Paging Event window

- Then, under "Conflict", choose "Cancel All" "Coexist according to your needs.
- Tick "Pre-define Zone Enable" in order to define where the fireman microphone will play.

Choose zone according to your needs. Then click "OK".

- In the Fireman Microphone window, select the behavior of the microphone under "Paging Mode". You can choose between "Push To Talk" or "Lock To Talk", respectively means that you can talk only while pushing the microphone button or talk after pushing once the microphone button (stop talking by pushing a second time the microphone button).
- Close the "Fireman Microphone" window.

❖ GPIOs

The two next paragraphs EXFLT and INPUT discuss about, respectively, how to use GPIOs to have the SONaes default contact working and to add a external contactor to trigger an evacuation action.

To access the GPIOs page, click under menu "View -> GPIO"

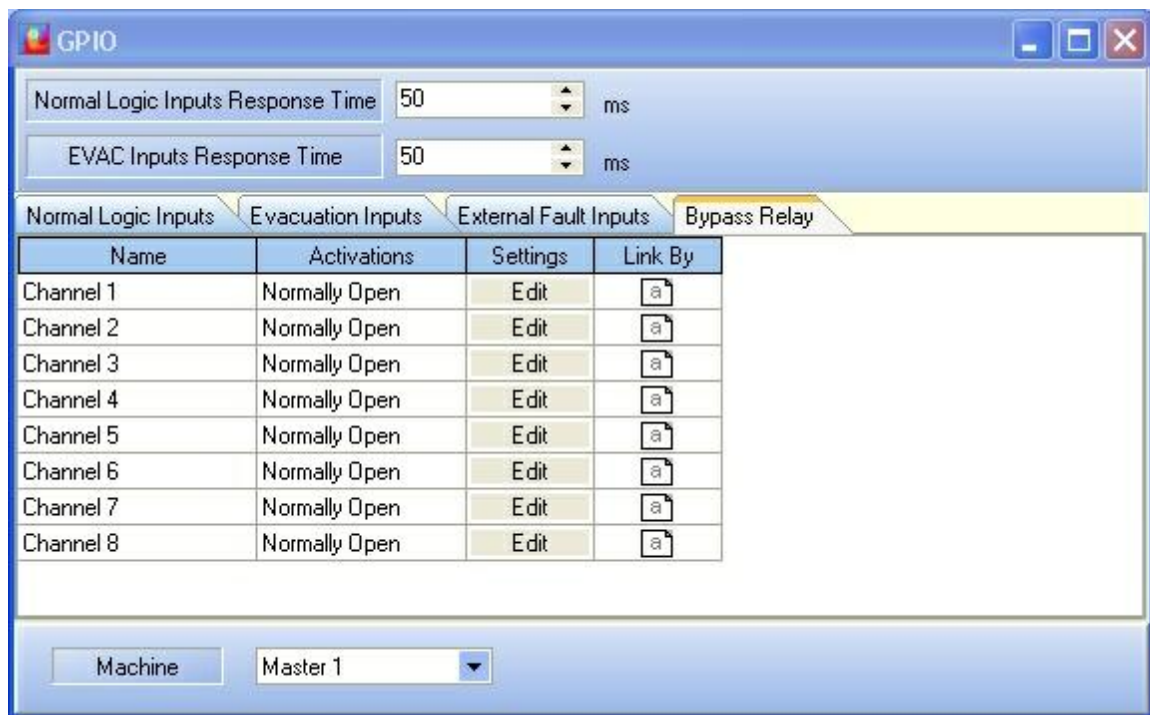


Figure 20: GPIO window

❖ EXFLT

Before going any further, the principle of security in the event have to be discussed. In case of power shutdown, the all DIVA system is designed to run under 24V battery. The DIVA is made for energy saving and will only keep security event alive. All the non-security event will be disable. The activation of an external fault input will force DIVA into security mode.

- In the GPIO window (Figure 20), click the External Faults Inputs tab (Figure 21).
- Tick the security square.

Note: You don't have to define an event in order to activate the external fault inputs. Ticking Security will induce DIVA to know in case this contact is activated that there is a major issue and will automatically go in power safe mode. So that only security event could be activated.

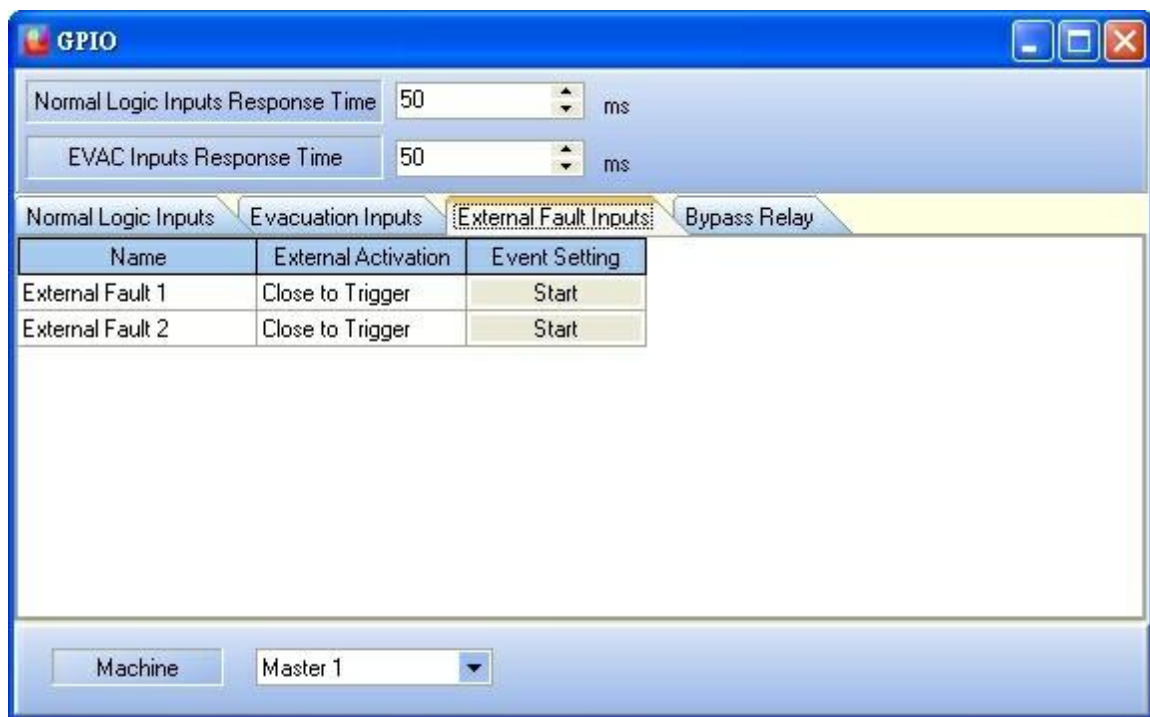


Figure 21: External Fault Inputs page

❖ EVAC:

Evacuation inputs can be monitored input. It means that the line is under surveillance. In this example, we will activate the evacuation message by calling the "Evac" event.

Note: see annexe to know how to perform a monitored evacuation button/line.

In the GPIO window, please click on the "Evacuation Inputs" tab, see Figure 22.

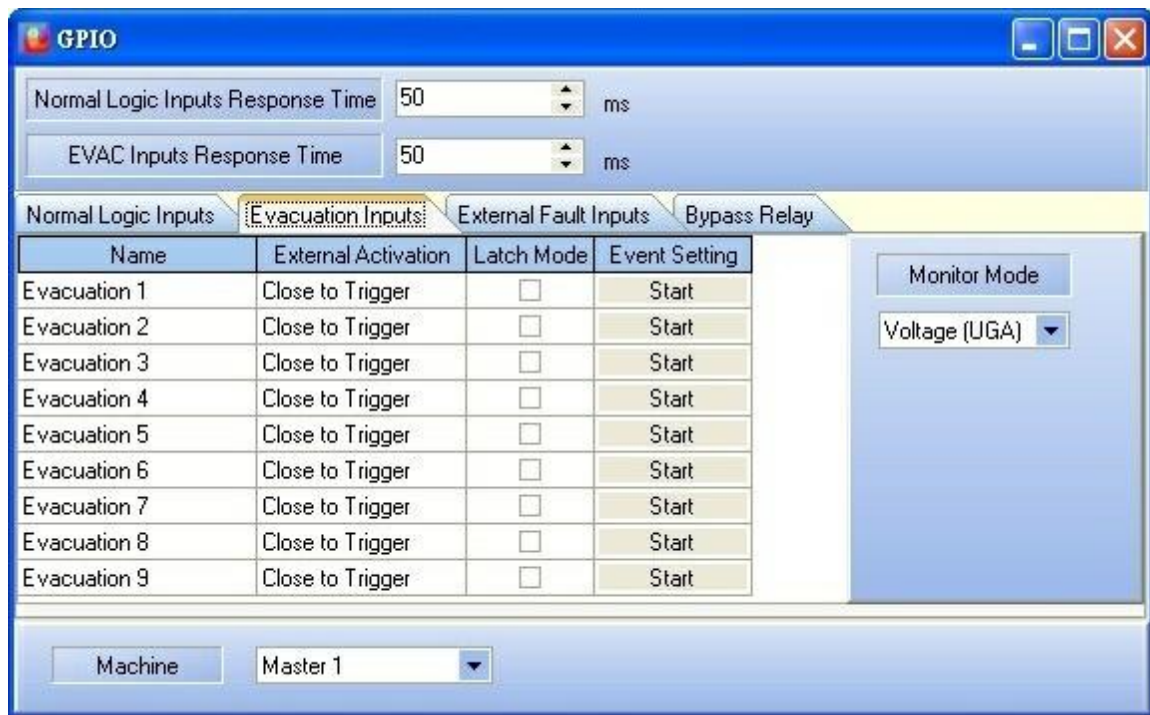


Figure 22:GPIO's Evacuation Inputs tab

- Under Channel 1, tick the "Latch Mode" square selector. "Latch mode" defines way the contact or button will work. In "Lach Mode", you will have to close/open the contact once for launching the event, and reclose/reopen it to stop the event. In "Non Latch Mode" the contact need to be close/opened all the time the event has to be activated.
- Click on the "Start" under "Event Setting" for channel 1. You will enter in the "Events Selection" page, see Figure 23.

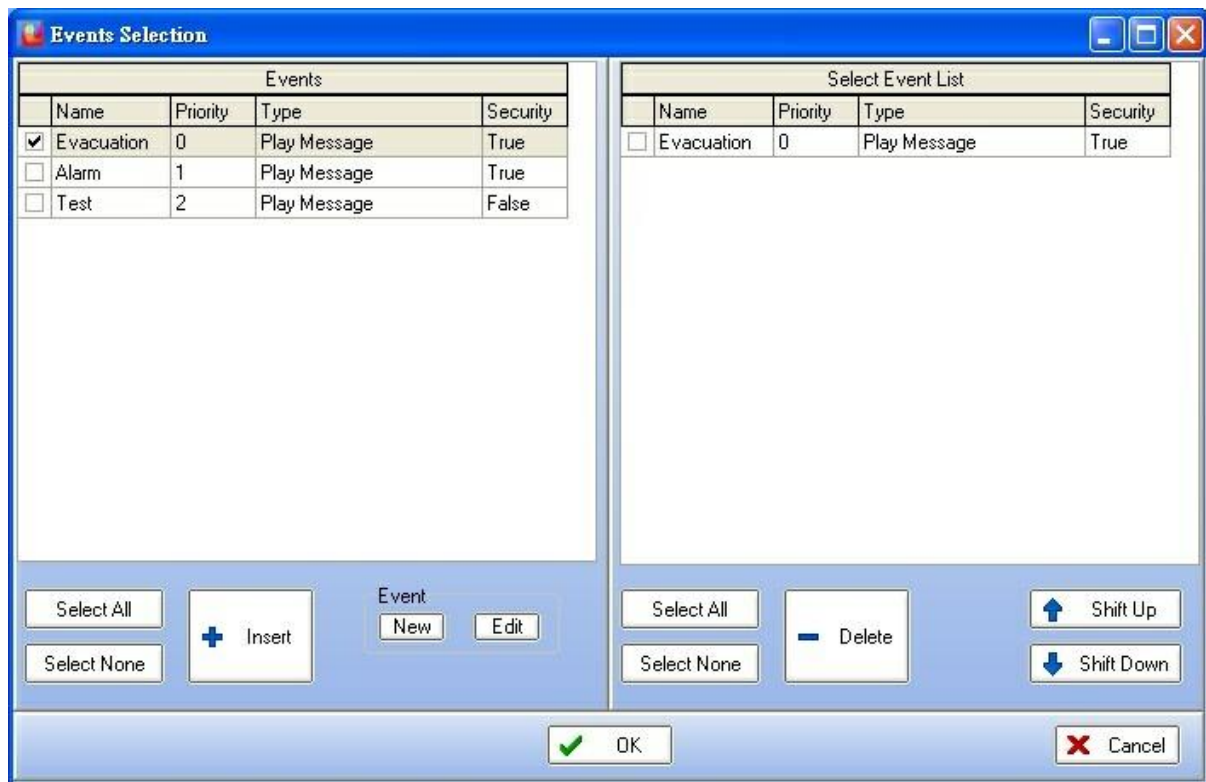


Figure 23: Evacuation Inputs Event Selection page

- At the left of the page, you will see all the existing event. Select the "Evac" event and click on insert.
- Click "OK"
- On the GPIO page, "Evacuation Inputs" tab, you will find under "Monitor Mode" drop-down menu which allow you to choose between 2 modes: Voltage UGA and Contact.

Note: "Voltage UGA" mode means the contact is activated by an external voltage source. "Contact" mode used internal voltage source that is forced to 0 V when the input is shorted (closed contact).

- Tick the "Monitored" square selector to apply a full surveillance to your contact.

Note: "Monitored" has to be used with additional 47k resistors at the end of the line. The monitored input permit to determine if there is a short-circuit, an open line, a closed contact or an open contact.

- Close the GPIO window.

❖ Surveillance Monitoring

As said before, DIVA is EN 60849 and EN54-1 compliant. It means that the monitoring of event, message and speakers line are totally secure.

To access the monitoring window, go on the DIVA1 window and click the "Monitoring" button under the DIVA icon.

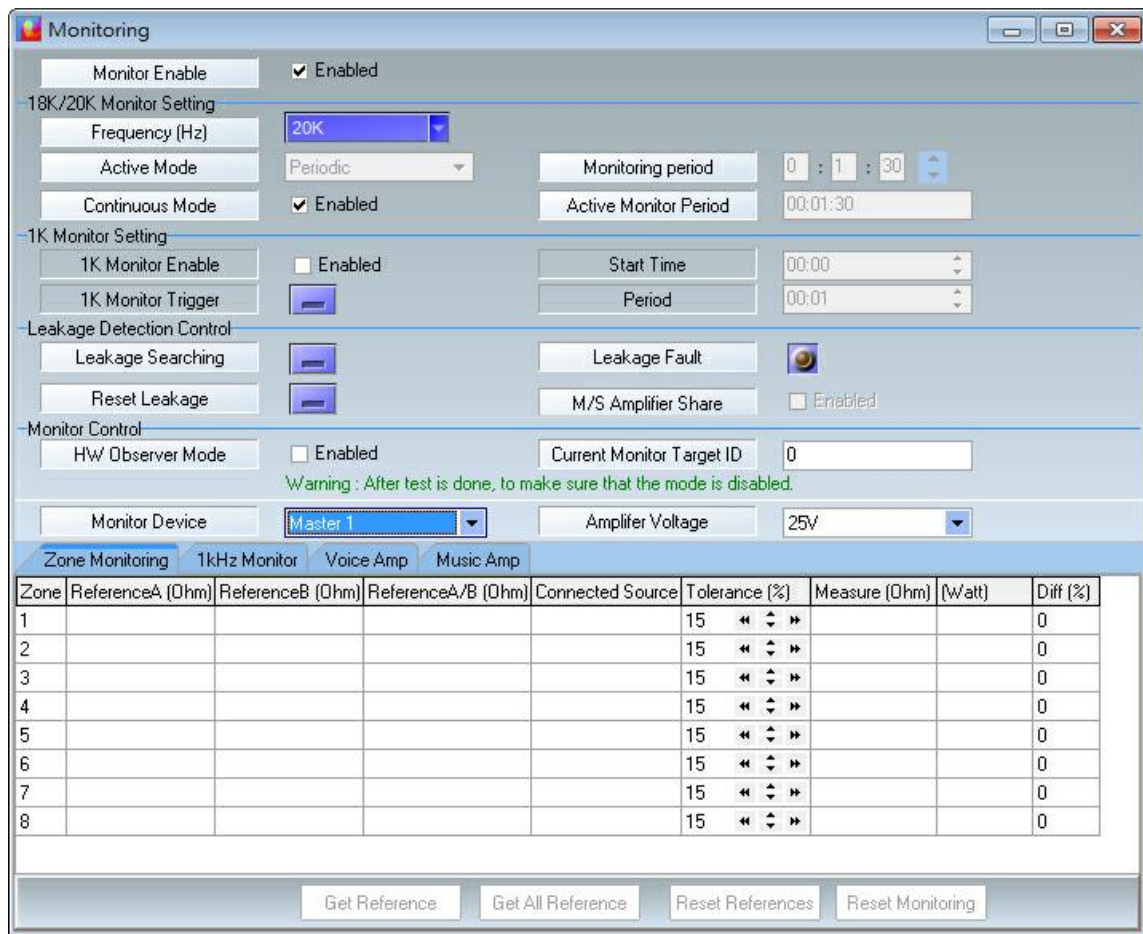


Figure 24: Monitoring Window

- In the "Monitoring" window(Figure 24), you can see the machine display. It informs which DIVA you are currently monitoring.

Note: all DIVA in your Network are real time surveillance monitored.

- The "Monitoring" window is divided into four distinct parts: "Zone Monitoring", "1kHz Monitor", "Voice Amp", "Music Amp" (corresponding to the four tabs) .
- Zone Monitoring
 - As mentioned before, one speaker zone is separated in two, A and B. On for security (Voice) and one for Music (Music). The Voice channel has the priority regarding Music channel in case of power supply defect. In case of default on the Voice Channel, the voice source is automatically routed on the Music channel.
 - Click on the "Get All Reference" button. It will start storing the actual measurement for each zone.
 - In the "Zone Monitoring" page, you can specify the tolerance of the faults detection. It means that as long as the real time measurement is within the reference +/- the tolerance, the monitored speaker lines are considered as non faulty.
- 1kHz Monitor

To add the scheduler for detecting the 1kHz monitor. Set the scheduler to trigger the detect for every speakers' 1k tone outputs.

- Voice Amp
 - The voice amp tab is illustrated on Figure 25.
 - Simply click on get the reference and choose a tolerance.
- Music Amp

To get the reference impedance measurement and to start monitoring this amp channel, simply reproduce the "Voice Amp" procedure. Close the monitoring window.

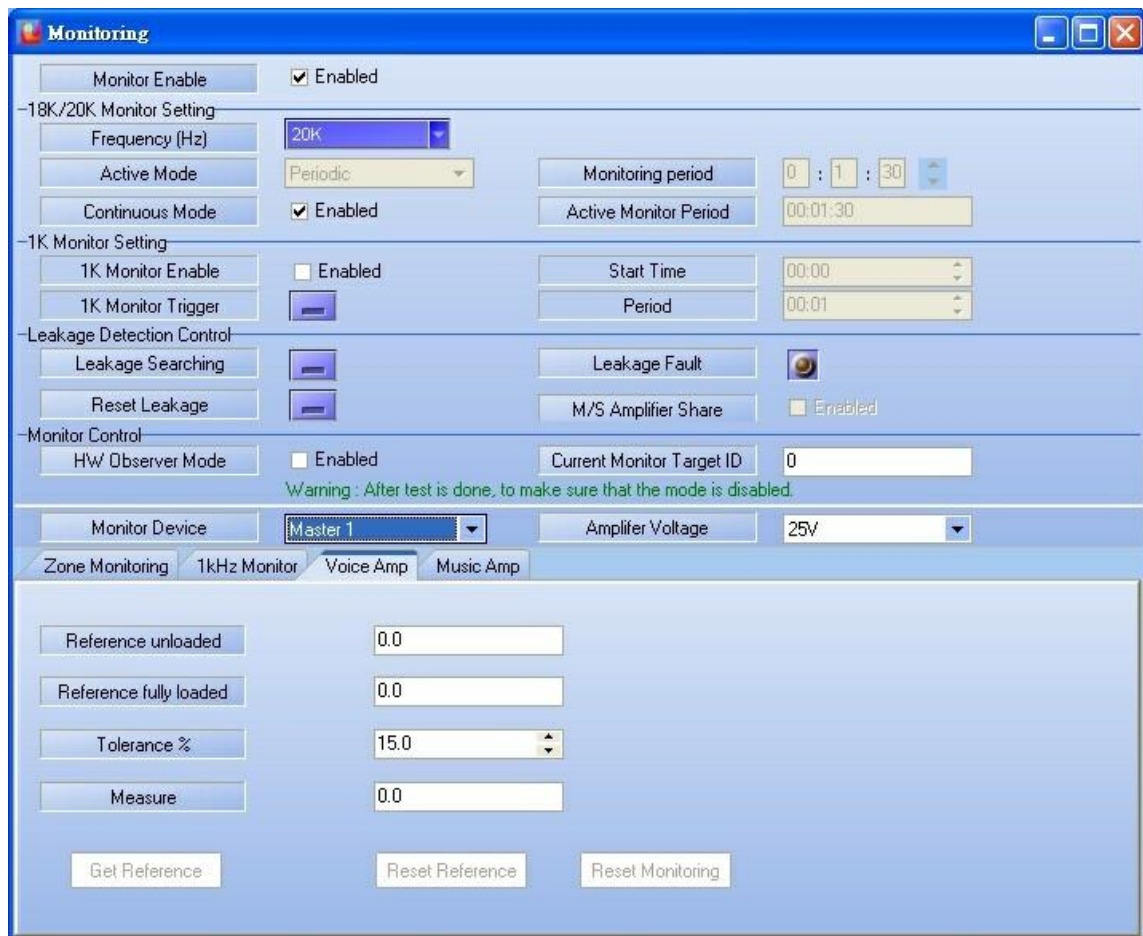


Figure 25: Voice Amp Monitoring Window

- Leakage Detection Control
 - You need to tick the "M/S Amplifier Share" box if there are more than one unit in this system.
 - The Leakage Fault appears, the light on Fig25-2 will light up, through the searching button, you can find which slave or which zone has leakage problem.
 - You can press the "reset leakage" or set the TFT menu to off the current leakage fault, but it will display leakage fault again if the monitor detects the leakage later.

Monitoring

Monitor Enable ☒ Enabled

-18K/20K Monitor Setting

Frequency (Hz) 20K

Active Mode Periodic

Monitoring period 0 : 1 : 30

Continuous Mode ☒ Enabled

Active Monitor Period 00:01:30

-1K Monitor Setting

1K Monitor Enable ☐ Enabled

Start Time 00:00

1K Monitor Trigger

Period 00:01

-Leakage Detection Control

Leakage Searching

Leakage Fault

Reset Leakage

M/S Amplifier Share ☒ Enabled

-Monitor Control

HW Observer Mode ☐ Enabled

Current Monitor Target ID 0

Warning : After test is done, to make sure that the mode is disabled.

Monitor Device Master 1

Amplifier Voltage 25V

Zone Monitoring 1kHz Monitor Voice Amp Music Amp

Zone	ReferenceA (Ohm)	ReferenceB (Ohm)	ReferenceA/B (Ohm)	Connected Source	Tolerance (%)	Measure (Ohm)	(w/att)	Diff (%)
1					15 « ↑ »			0
2					15 « ↑ »			0
3					15 « ↑ »			0
4					15 « ↑ »			0
5					15 « ↑ »			0
6					15 « ↑ »			0
7					15 « ↑ »			0
8					15 « ↑ »			0

Get Reference Get All Reference Reset References Reset Monitoring

Figure 25-2: Leakage detection control Window

4 Product Features

4.1 DIVA Series Audio Processor

4.1.1 DIVA8M

4.1.1.1 Overview

DIVA8MG2 responds to public address requirements and Voice Alarm EN 54-16 compliance for small to medium installations.



The DIVA8MG2 module unit houses : audio digital signal processing (DSP), a matrix, a digital message player, a fully monitored fireman microphone, amplifiers monitoring with switchover to backup amplifier and loudspeaker lines monitoring.

It can process and route one PSSxxDT security microphone console or up to eight cascaded PSM paging microphones and two 0 dB audio inputs, plus one Mic/Line input, into 2 different channels (Music + Voice).

Each input is fitted with volume controls and equalizers. All audio inputs feature contact and VOX activation (ideal when using the cordless microphone, for example).

Up to 45 minutes of digital messages can be downloaded and recorded as WAV files directly from a computer into DIVA8M. Two messages can be played simultaneously in different zones. One of the messages can be used as a chime for the PSS microphone. Nine monitored alarm inputs making it possible to obtain the pre-programmed routings.

Each DIVA module has eight output zones with a+b wiring. Each zone can be routed manually or automatically to one of the system's audio channels (Music and Voice). The number of zones can be extended up to 128 zones with DIVA8MS (Slave-module).

The two Music channels can be switched ON/OFF in each zone separately. In case of Evacuation, the Music channel can be used as a second alarm channel.

A DIVA system requires only one 2 channel amplifier (one for Music, one for Voice). The Music amplifier will act as a backup amplifier in case of a Voice amplifier failure. Each channel can handle up to 500 W of audio power (100 V).

From the front panels, the user can manually route the fireman microphone signal and three digital messages into the selected zones, adjust the audio level and switch (ON/OFF) the music in each zone separately. In case of evacuation, the zones attenuators are automatically bypassed. One output contact per zone (eight per unit) can be activated each time the zone is occupied with a source having a higher priority than the music (Alarm or microphone paging...).

As an EN 54-16 security system, all DIVA components and peripherals are constantly monitored (without music interruption). All incidents are recorded into a data file which can be consulted on the DIVA display or on a PC.

Also any detected faults and alarm status are signalled by general fault and alarm output contacts. A local loudspeaker enables selective listening to all the sources and the system's output signals.

The setup of DIVA is realized through a PC computer and the PCDIVA configuration software (Windows compatible). Access can be password-protected.

The routing and the level of the music sources can be controlled directly from the PSS microphone.

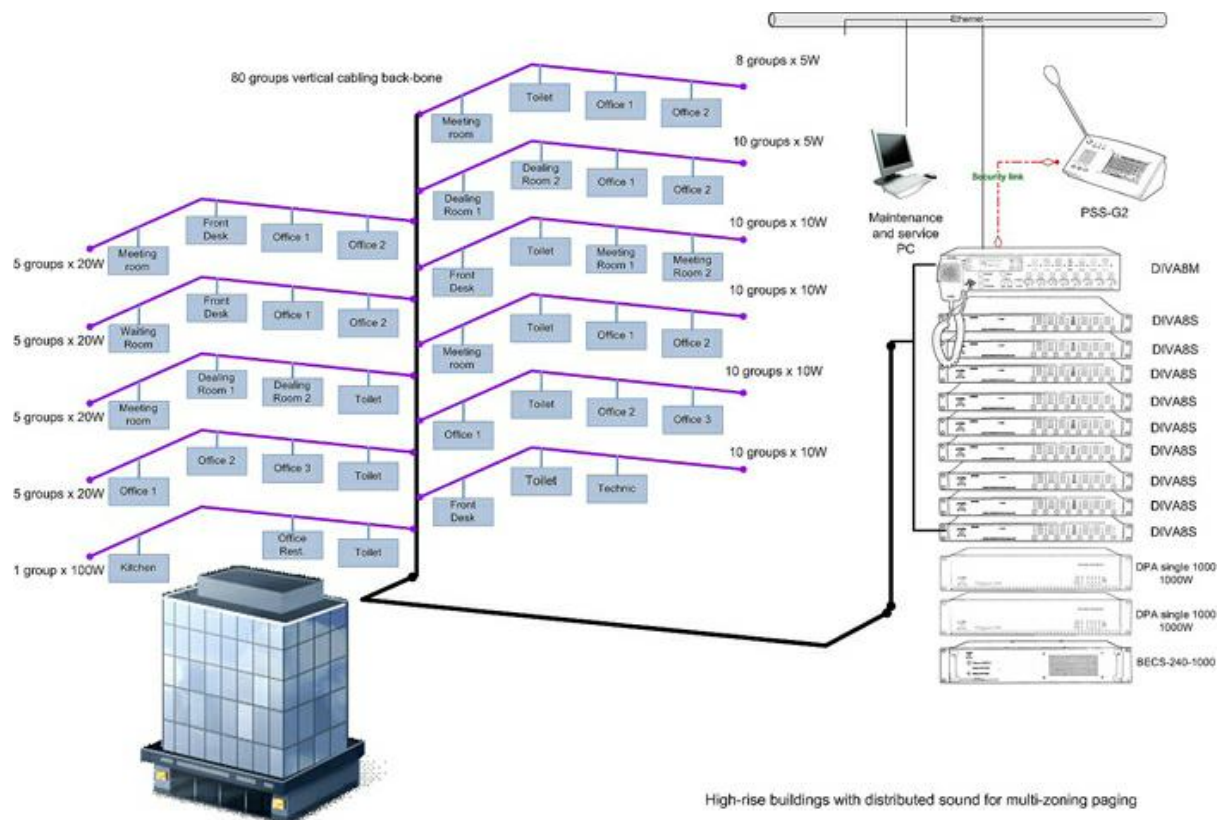
All these features make DIVA the ideal system for shopping malls, hotels, restaurants, museums and many other public places.

❖ DIVA8M is made of:

- 5 audio inputs (2 x line, 1x MIC/ line, 1 x PSS or PSM, 1 Fire Mic.).
- Integrated and monitored Fireman microphone.
- 8 logic input contacts.
- 1000 W max power on each channel amplifier.
- RS-232 serial interfacing for third party control (Modbus, Notifier, Vox@net network).
- Ethernet port (RJ-45) TCP/IP based for computer management, for software configuration and/or to enable IP paging.
- 9 alarm evacuation input contacts(with surveillance).
- Eight speaker zone connectors split in A and B line.
- PSS/PSM connector, RJ-45 connector to link PSS or PSM call-stations.
- Master-Slave link, RJ-45 connector to create a master-slave DIVA system.
- Backup power input for 24VDC power supply.

❖ Application Example 1

High rise building with distributed sound for multi-zone paging:



This tutorial describes a PAVA system, VACIE, which is used for voice evacuation with an automatic link to a firepanel system, FACIE, for high rise building applications with multizone paging requirements. The DIVA concept represents a reliable and affordable system solution.

The system consists of a central rack that contains all equipment including: DIVA8M - Master unit and 9 pcs. of DIVA8S - Slave units, covering an 80 zones background music and selective paging and voice evacuation system.

From the central rack, a multi-pair cable transports the audio to the multiple zones with variable loads. The DIVA8M - Master unit provides the fireman's operating section on the central paging facility rack and a touchscreen multi-zone paging and control console. This part of the system is also linked to the FACIE.

The DIVA8M - Master unit is linked with the DIVA8S - Slave units using a secured link over RJ45. Two powerful 1000 Watt amplifiers provide signals for paging and background music. The background music amplifier is also used as back-up amplifier in case of an amplifier failure. This unique concept guarantees savings on rack assembly and amplifier power.

The paging console is connected via a secured dedicated link with the central equipment racks. A TCP/IP link from the main system to the SERVICE area is meant for maintenance use and remote access.

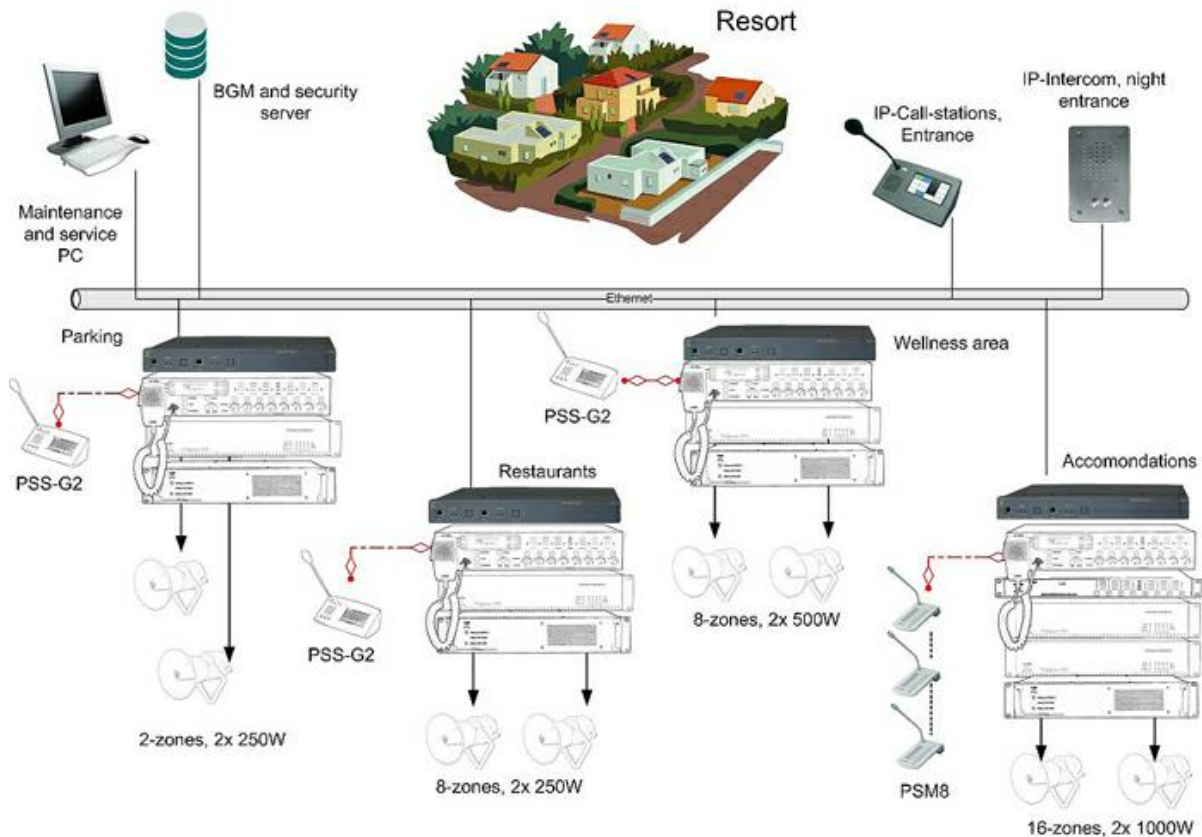
The paging desk can do 'all-call' and zoned call announcements and has a monitor loudspeaker in the unit for system monitoring.

Central equipment rack:

- 1x DIVA8M, for 8 zone paging

- 9x DIVA8S, for 9 x 8 zone paging
- 1x DPASingle1000, Paging amplifier
- 1x DPASingle1000, Music & Backup amplifier
- 1x BECS150, Power & Battery back-up device
- 1x PSS-G2 Paging console

❖ Application Example 2



This tutorial describes a PAVA system, VACIE, which is used for voice evacuation with an automatic link to a firepanel system, FACIE, for a resort with several buildings linked over IP. The DIVA System concept stands for a reliable and affordable system solution where each building has its own FACIE linked to the VACIE consisting of a DIVA8M - Master unit with amplifiers and battery backup facilities.

The system consists of 4 individual PAVA equipment sets that are linked over IP. A server with special software, Vox-Net, surveys the audio/data connections between the 4 sub systems and the IP-paging facilities. Vox-Net - IP media software also provides surveyed intercom stations to be included into the system and provides multichannels BGM. The standalone DIVA8M provides the fireman's operating section on the central paging facility rack and a touchscreen multi-zone paging and control console. This part of the system is also linked to the FACIE.

Depending on the situation, digital power amplifiers are used; 4 x 125 W, 4 x 250 Watt or 1 x 1000 W. DIVA8M and DIVA8S only need 2 amplifiers. One for Paging and one for BGM/Back-up. The background music amplifier is also used as back-up amplifier in case of an amplifier failure. This

unique concept warrants savings on rack assembly and amplifier power.

The paging consoles, PSS-G2 and PSM8 are connected via a secured dedicated link with the central equipment racks. When multiple PSM8's are used into one DIVA8M, only the first one, master, can be used for security purposes. The remaining ones, slaves, are not surveyed.

A TCP/IP link from the main system to the SERVICE area is meant for maintenance use and remote access. The paging console can do all calls and zone-calls and has a feedback loudspeaker in the unit for system monitoring.

Central equipment:

- 1x Server PC with Vox-Net-Server, IP-media software
- 1x IP call station, PMIP-D
- 1x Intercom doorstation, UCIP-1
- 2x Vox-Net-In, IP media licence Parking Area:
- 1x DIVA8M, master unit
- 1x DPAfour125, digital power amplifier
- 1x BECS150, battery backup unit
- 1x PSS-G2, paging console
- 1x Vox-Net OUTPUT Node license

Restaurants:

- 1x DIVA8M, master unit
- 1x DPAfour125, digital power amplifier
- 1x BECS150, battery backup unit
- 1x PSS-G2, paging console
- 1x Vox-Net OUTPUT Node license

Wellness area:

- 1x DIVA8M, master unit
- 1x DPAfour250, digital power amplifier
- 1x BECS150, battery backup unit
- 1x PSS-G2, paging console
- 1x Vox-Net OUTPUT Node license

Accommodations:

- 1x DIVA8M, master controller
- 1x DIVA8S, Slave unit
- 2x DPAfour250, digital power amplifier
- 1x BECS150, battery backup unit

- 3x PSM-V2, paging console
- 1x Vox-Net OUTPUT Node license

4.1.1.2 What's inside the Box

Opening the box you should find the following items:

- DIVA Master Unit
- Rack rounting brackets, 2 pcs
- Metal screws Philips M3x6, 6 pcs
- 12-way euroblock connectors, 1 pcs
- 10-way euroblock connectors, 3 pcs
- 5-way euroblock connectors, 2 pcs
- 4-way euroblock connector, 11 pcs
- 230V/24 VDC power supply
- CD-ROM
- Fireman Microphone

If you realize anything missing, please contact your distributor.

4.1.1.3 Installation

In the Box of the DIVA there is containing a letter with a point by point instruction that need to be followed for safety reasons.

❖ Rack mounting:

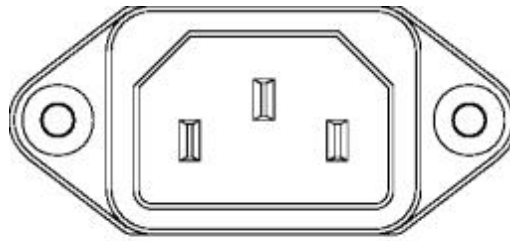
If needed, fit the rack mounting brackets to each side of the DIVA by using the 6 pcs Phillips M3x6 screws supplied with the package.

❖ Sitting:

The DIVA unit takes a 2U 19" rack space and generates little heat itself. Consider leaving enough ventilation space above and below the unit. Do not mount the DIVA directly above heat generating devices like power supplies or power amplifiers.

❖ Power connection:

DIVA accepts 24 VDC power supply as well as 230 VAC power supply. In order to be EN54 compliant, use a BECs battery charger and power supply and connect it on a 4-way euroblock connector respecting the polarity.



100-240 VAC 50/60Hz

❖ EN-54 Installation Requirements

In order to comply with the EN-54 standard installation requirements, please carefully read the followings manuals:

- BCS 150 user manual “BECS150-10UMS01-V01R01”
- DPA amplifiers series user manual “DPA-10UMS01-V01R01”
- PSSG2 user manual “PSSG2-10UMS01-V01R01”
- ID16 user manual “CD16-10UMS01-V01R01”

Those manuals can be downloaded from [ATEIS website](#) or could be required from any branch office. In order to fully understand all the DIVA system requirements regarding standards, please read also the following guides:

- DIVA8 service manual “DIVA8MG2-M/S-10SMS01-V01R01”
- DIVA8 VACIE reference “DIVA8MG2-M/S-10VRS03-V01R01”
- DIVA8 VACIE documents “DIVA8MG2-M/S-10VDS01-V01R01” and “DIVA8MG2-M/S-10VDS02-V01R01”
- DIVA8 system VACIE EN54-16 tesing guide “DIVA8 System VACIE EN54-16 testing guide”

4.1.1.4 Front Panel

**A Evacuation button:**

Initiates the evacuation process in manually selected or pre-defined zones.

B Power indicator LED:

Indicates the power status of the DIVA.

C & F Navigation buttons:

Plus, minus, ESC, OK, up arrow and down arrow buttons allows the navigation inside menus.

D Reset button:

Generates a global software reset (machine reboot).

E Color screen:

The screen displays all status information, menus and date/time.

G VACIE (Voice alarm control and indicating equipment) indicators:

There are eight rows of 4 LEDs that show in real-time mode the zones' status:

- EVAC
- FAULT
- ALERT/PAGE
- SELECTED

Integrated monitoring speaker: The DIVA integrates a front panel monitoring speaker that can monitor different audio sources (software configuration).

H Fireman Mic input:

Monitored fireman microphone input.

I All Call/Cancel button:

Selects all zone in the system or reset the current zone selection.

J Alert and Test message buttons:

Starts messages in manually selected zones or in pre-defined set of zones.

K Music control buttons:

The "ROUTE" button validate the zone selection. "SELECT" button permit to toggle between music source 1, 2 or none. The two music source indicators light when the corresponding source is used.

L Faults and status indicators:

There are four mains status LED on the DIVA front panel:

- G.Fault
- System Fault
- Evacuation
- By-Pass Mode

M Zone attenuator knobs:

Eight zone signal attenuators are available on the master DIVA8. Independent zone music level can be set for the eight master zones.

N Zone selection buttons:

Select or deselect zone for manual routing.

4.1.1.4.1 Fireman Microphone

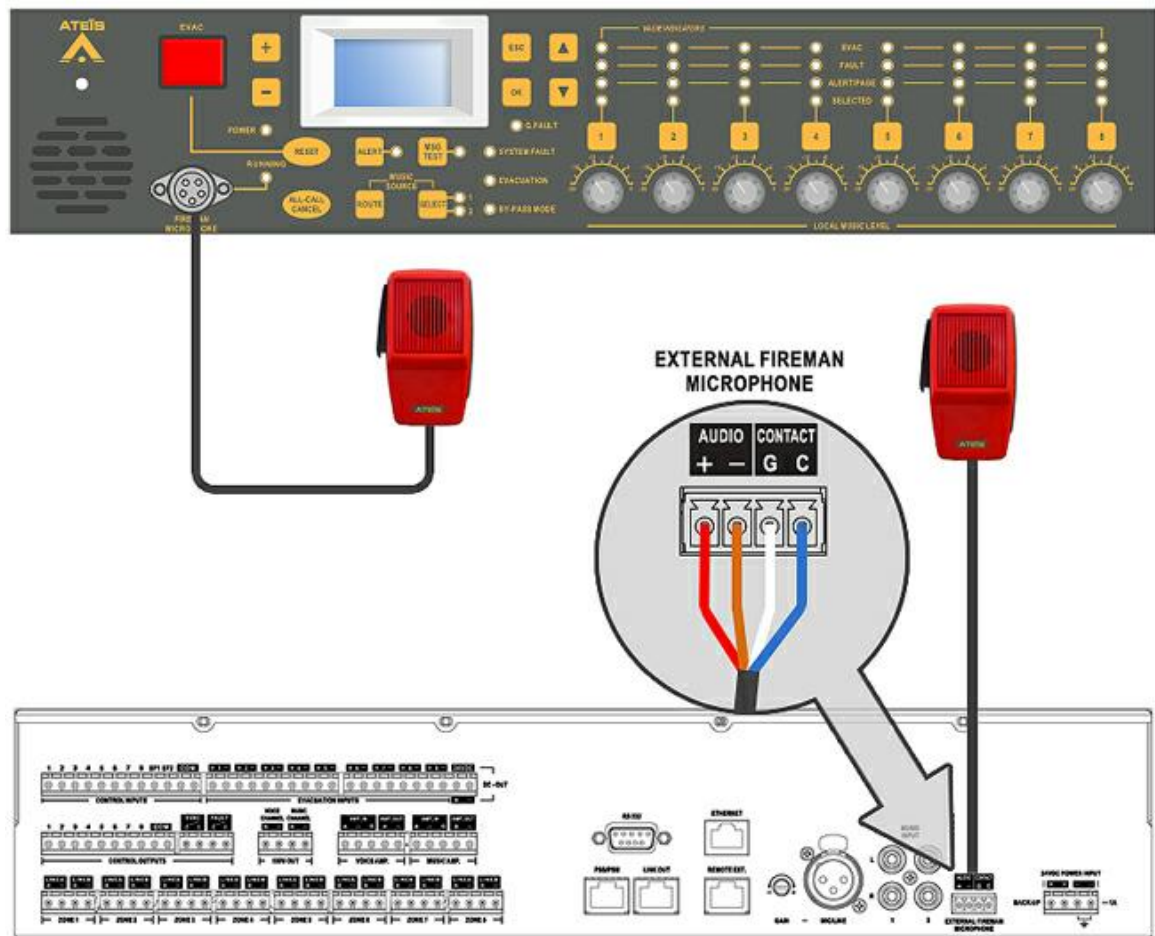


❖ Wiring

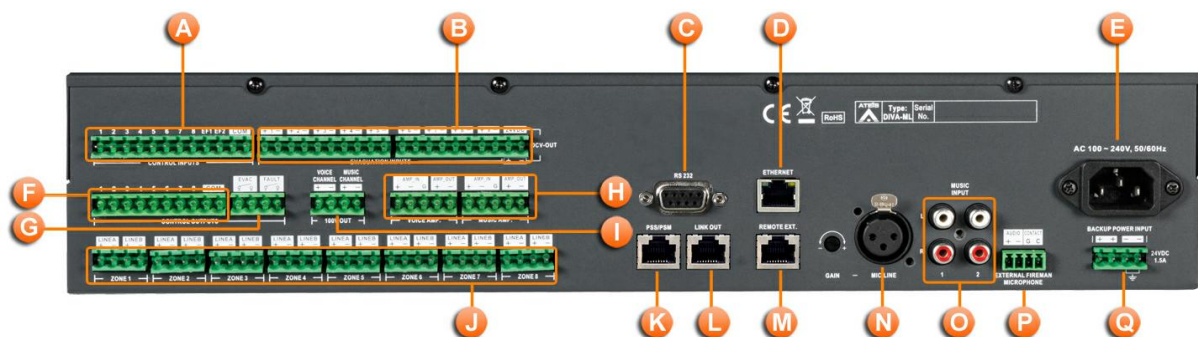
To connect the SHM1 fireman microphone, simply connect the SHM1 connector with the front panel fireman microphone connector.

In case of using another microphone, use the back connector to connect the microphone, see the picture below. Be aware that only the connection on the front panel is certified with the EN 54-16 standard and the monitor works on both of these two connections.

Note: The front panel connector and the back connector are parallel connected, please only use one of them.



4.1.1.5 Rear Panel



A Control inputs:

There is eight logic inputs that are two states input (open contact, close contact). External faults input are normally reserved to connect security devices like monitored power supply. Those two inputs can be used to put DIVA into a security mode, security mode will be discussed in the event chapter.

B Evacuation inputs:

Evacuation inputs are contact inputs that allows the monitoring of external contact. They also can be used in UGA mode, trigger by a voltage polarization change. This connector supplies a 24VDC source.

C RS232 Connector:

SUBD-9 connector that includes two RS232 ports.

D Ethernet Connector:

RJ-45 Connector to link the DIVA master to the ethernet network for software configuration and/or to enable IP paging.

E Power Section:

Insert provided power cable first into DIVA8M then in the wall power connector. 110~240 V 1.2A, 47~63Hz AC power input with fuse.

Fuse rating: 1.6 A

F Logic output:

Eight Logic outputs to send a pulse or a static closing/opening to an external device.

G Evac & Fault contacts:

Evac and fault output contact reflect the evacuation status and the general fault status of the DIVA system.

H Amplifiers I/O:

Voice Amp connector include the 0dB channel to power amplifier and the 100V audio channel from power amplifier. Same for Music Amp. Music amplifier channel will be used, in case of defect on the Voice amplifier channel, as a backup amplifier channel.

I 100V Signal links:

100V output to send 100V signal to others DIVA(M or S) unit.

J Speaker zone outputs:

Eight speaker zone connectors split into A and B line.

K PSS/PSM connector:

RJ-45 connector to link PSS or PSM call-stations.

L Master-Slave link:

RJ-45 connector to create a master-slave DIVA system.

M Remote Ext. connector:

not used.

N Mic/line input:

XLN connector to plug a microphone or a third line level audio source.

Music inputs:

Cinch connectors to plug two different 0dB audio sources.

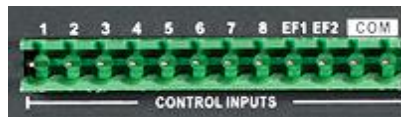
External Fireman Mic Input:

A replica of the front Fireman Microphone connector.

Backup power input:

24VDC power supply for battery operation.

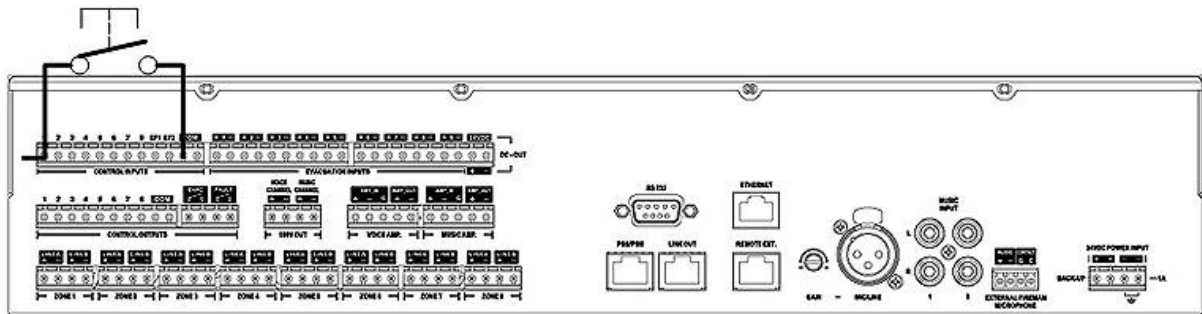
4.1.1.5.1 A) Control Inputs



Control Inputs (Normal logic inputs) have been designed to work with simple contact or button.

❖ Wiring

Follow the next schematic to connect a contact to a normal logic input.



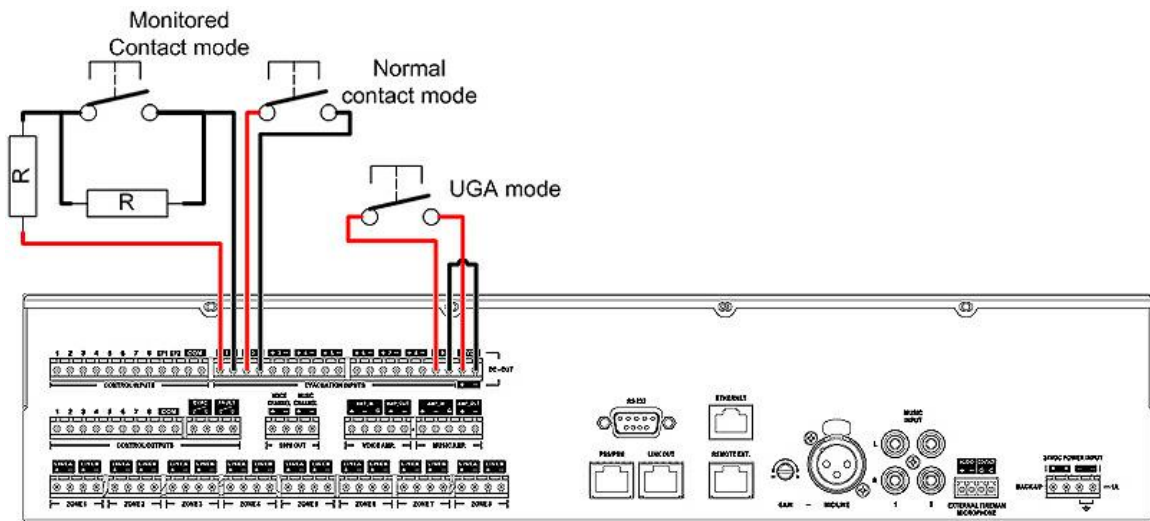
4.1.1.5.2 B) Evacuation Inputs



The evacuation input can be used in three different modes: contact, monitored contact and UGA.

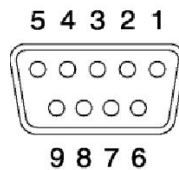
❖ Wiring

The three uses are represented on the schematic below.



To learn more about how to perform a monitorable contact, please read [this](#).

4.1.1.5.3 C) RS232 Connector

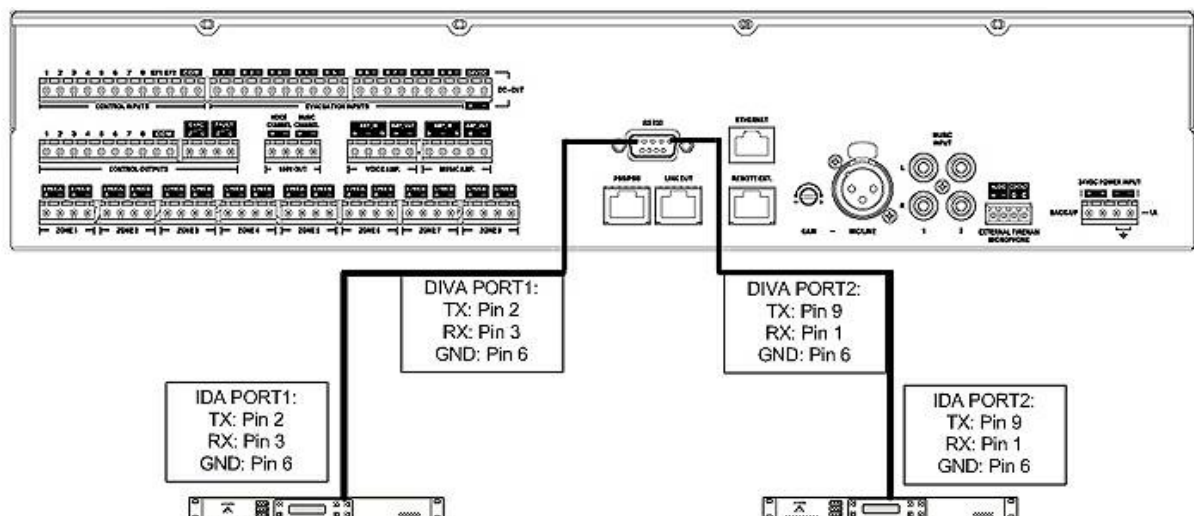


❖ Wiring

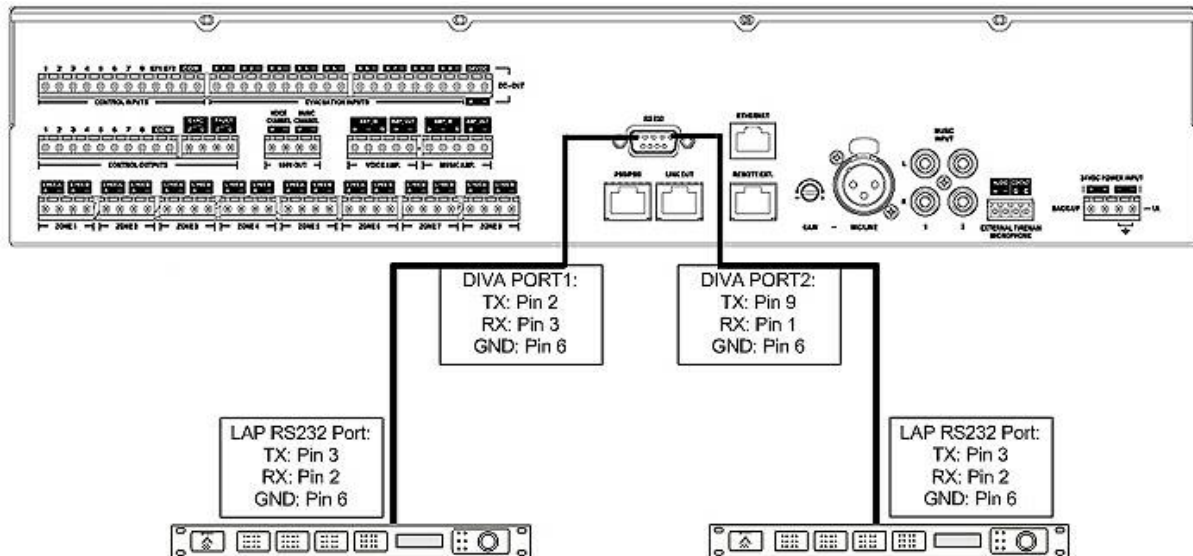
There are several ways of using DIVA serial port. Here are a few examples.

Remember to always cross Tx and Rx, means that Tx from DIVA goes to Rx from a master.

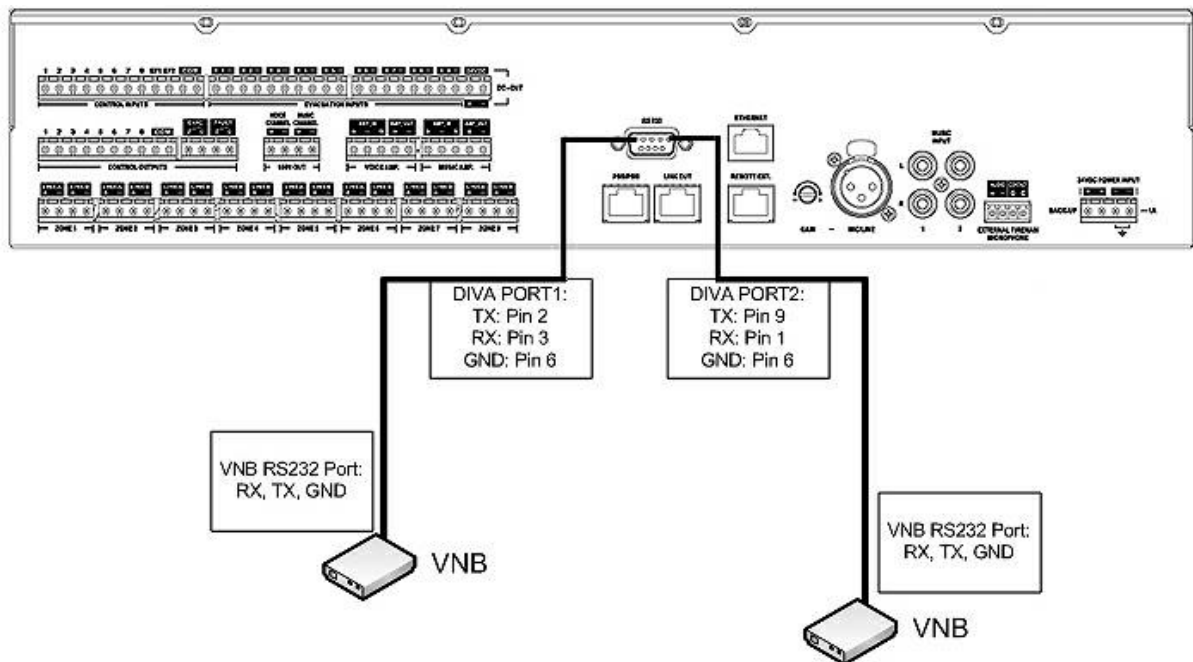
- With IDA4M(XM,SW):



- With LAP as RS232 carrier:



- With VNB for Vox@Net application or as RS232 carrier:



4.1.1.5.4 F) Control Outputs



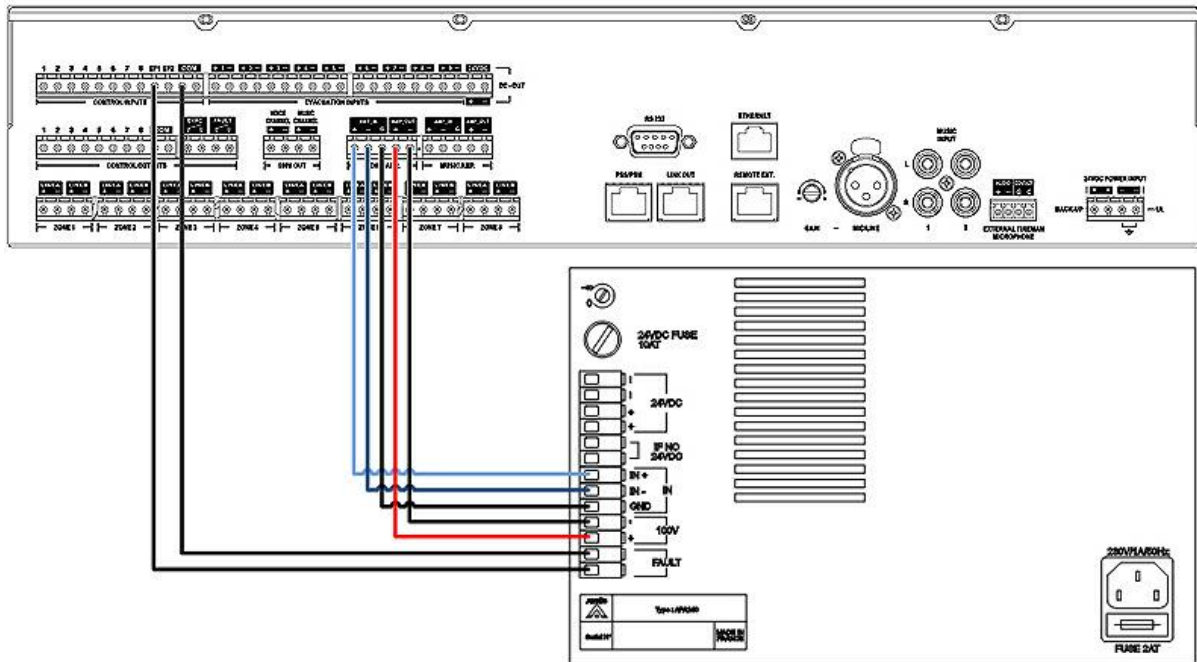
❖ Wiring

- AIN+: for positive 0dB output
- AIN-: for negative 0dB output
- GND: for 0dB ground output

- AOUT+: for positive 100V input
- AOUT-: for negative 100V input

Depending on the configuration needed, you can use the amplifier fault output to force DIVA to enter security mode in case of amplifier failure.

To achieve this aim, simply connect the DIVA EXFLT connector to the amplifier's FAULT connector.

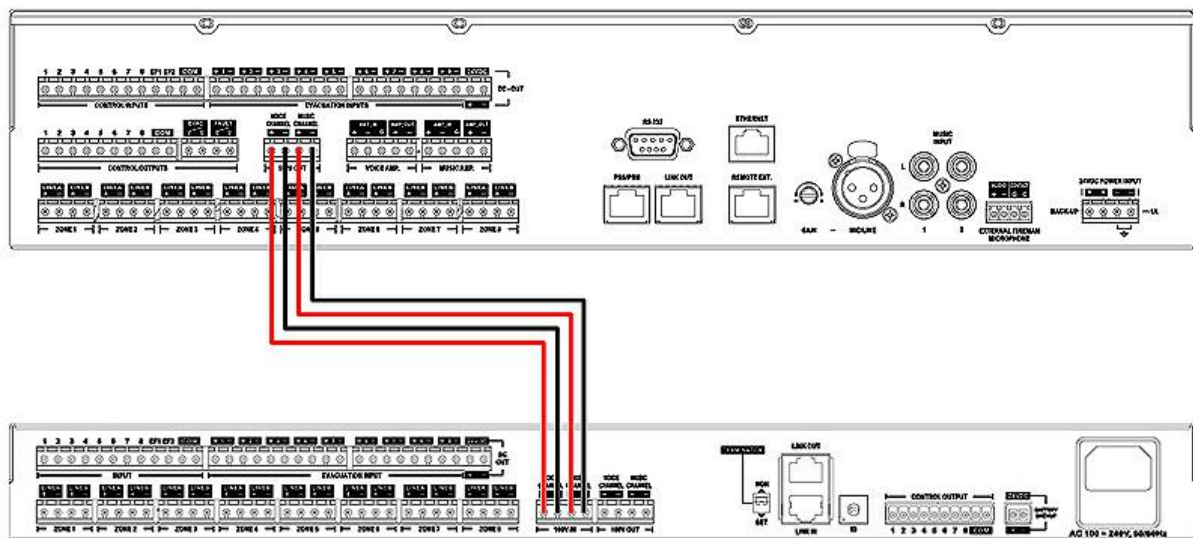


4.1.1.5.6 I) 100V Signal Links



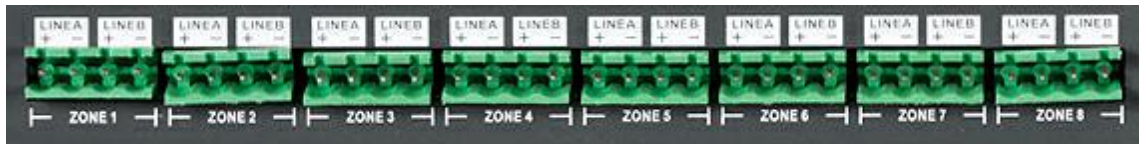
The 100V outputs have been made to link the 100V line from a master DIVA to a slave DIVA.

❖ Wiring



To learn more on how to do the connection between master and slave, please see (DIVA8S / [Linking](#))

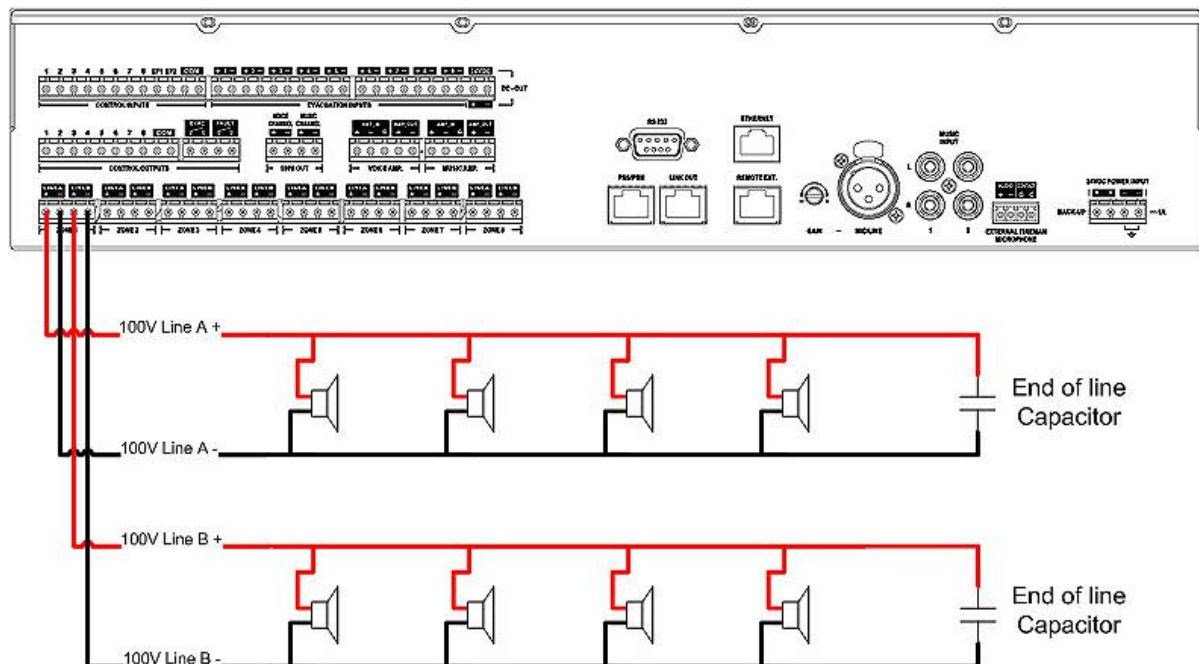
4.1.1.5.7 J) Speaker Zone Outputs



❖ Wiring

In order to have a high accuracy on impedance measurement, you should add an end of line capacitor on each speaker line. If help is needed to know the value of those capacitors, please take contact with Ateis.

When connecting speakers, take care of the polarity.



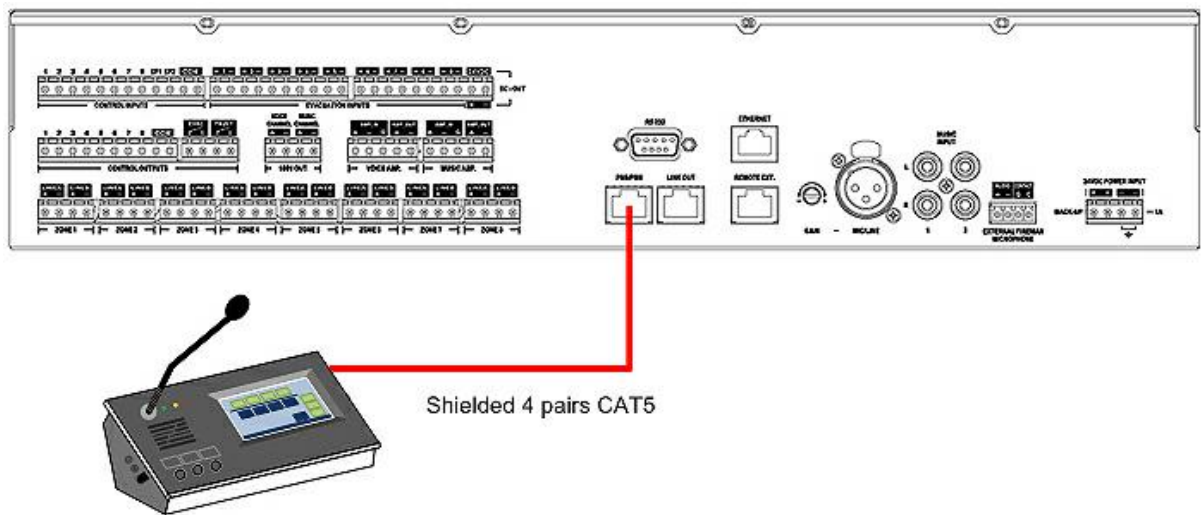
4.1.1.5.8 K) PSS/PSM (RJ45) Connector



❖ Wiring

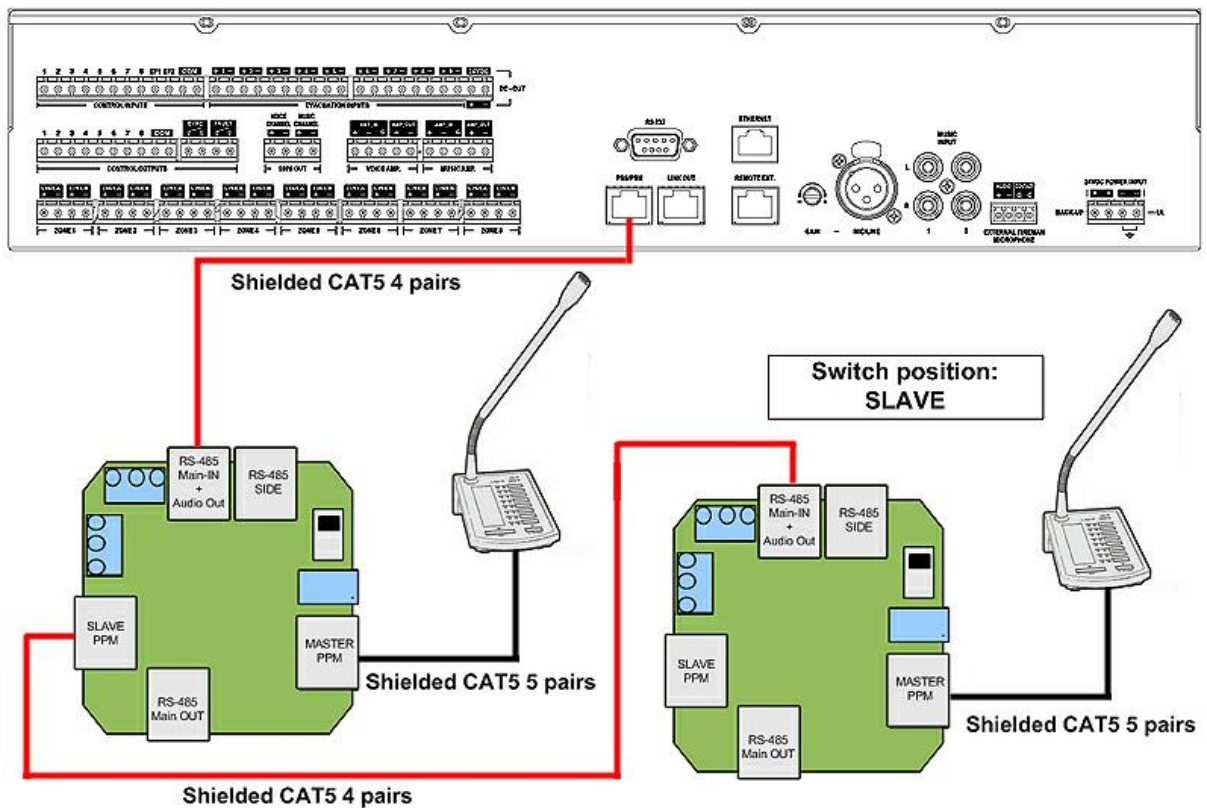
- PSSG2 Microphone

In order to connect the PSS or PSSg2 microphone to DIVA, simply use a shielded 4 pairs CAT5 cable to link the PSS/PSM DIVA RJ45 connector to the RJ45 of the PSS. Maximum cable length 200m, if more distance is needed please use a local 24V power supply.



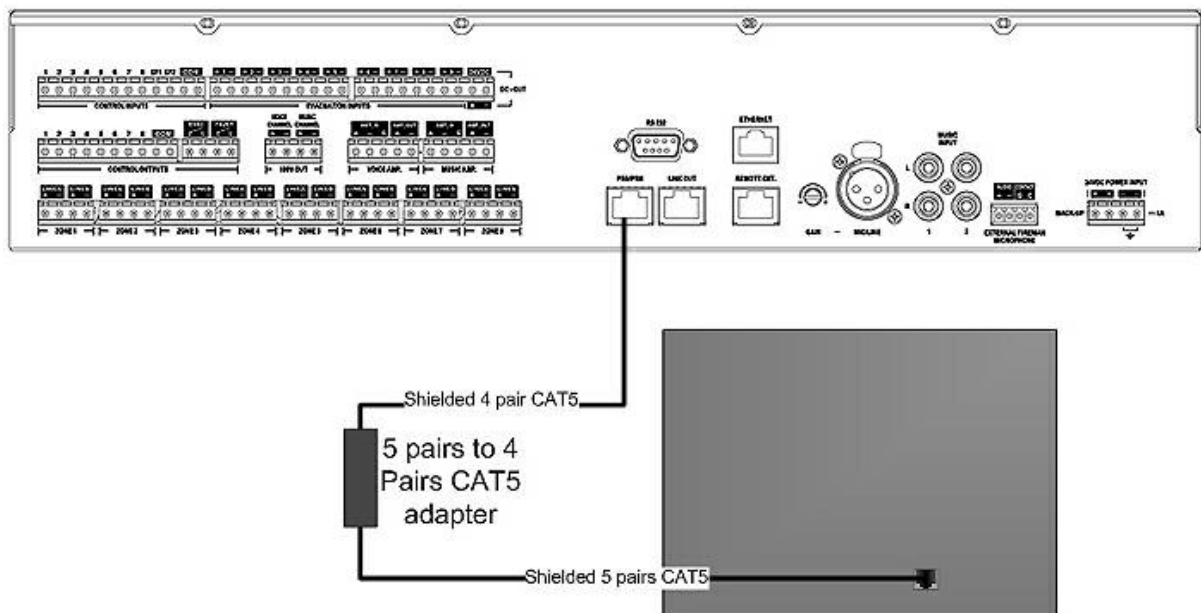
- PSMG2 Microphone

In order to achieve a PSM cascade, Junction boxes have to be used. The following schematic shows how to cascade two PSM microphones. In order to increase the number of PSM, simply continue the cascading as described.

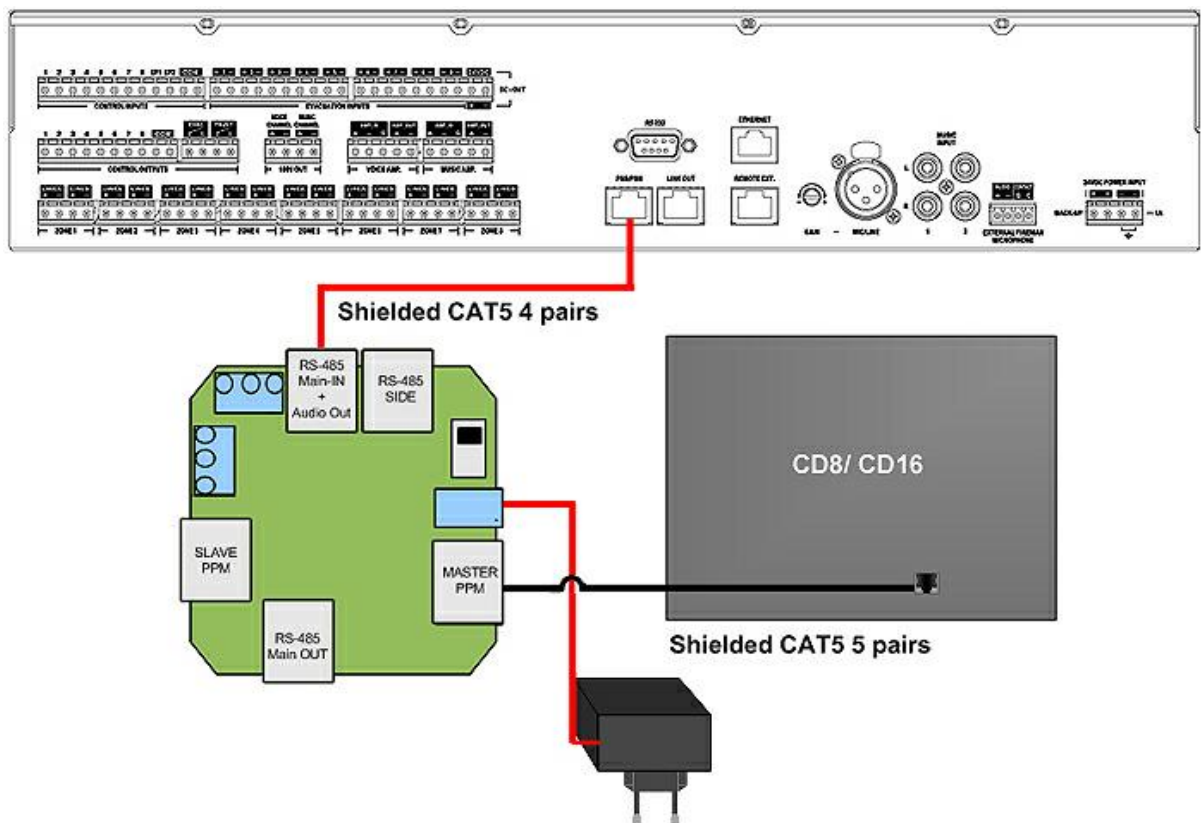


- CD16 Microphone

The CD16 wall panel microphone console is considered as a PSM for the DIVA system.



With external power supply due to distance limitation, the use of a junction box is required. The Junction Box should be placed within 80 meters from the CD16 microphone and the junction box power supply switch should be set to EXT.PWR, see picture below.



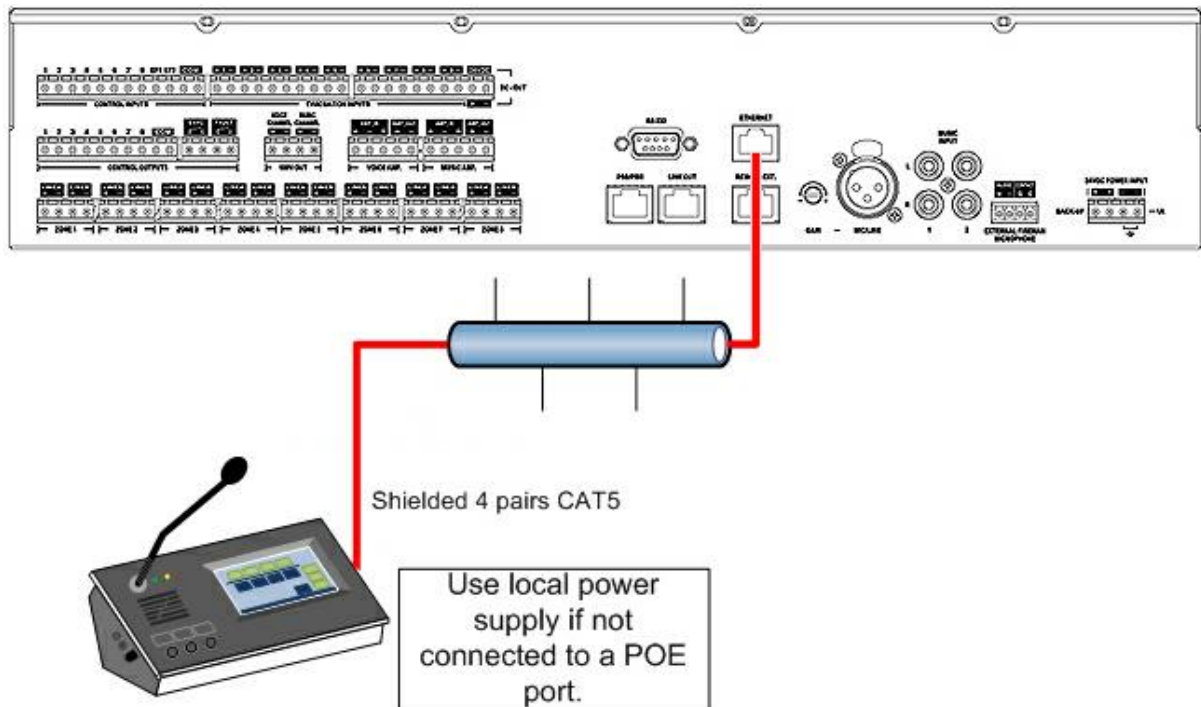
4.1.1.5.9 L) Ethernet (RJ45) Connector



❖ Wiring

- PSSG2-E Microphone

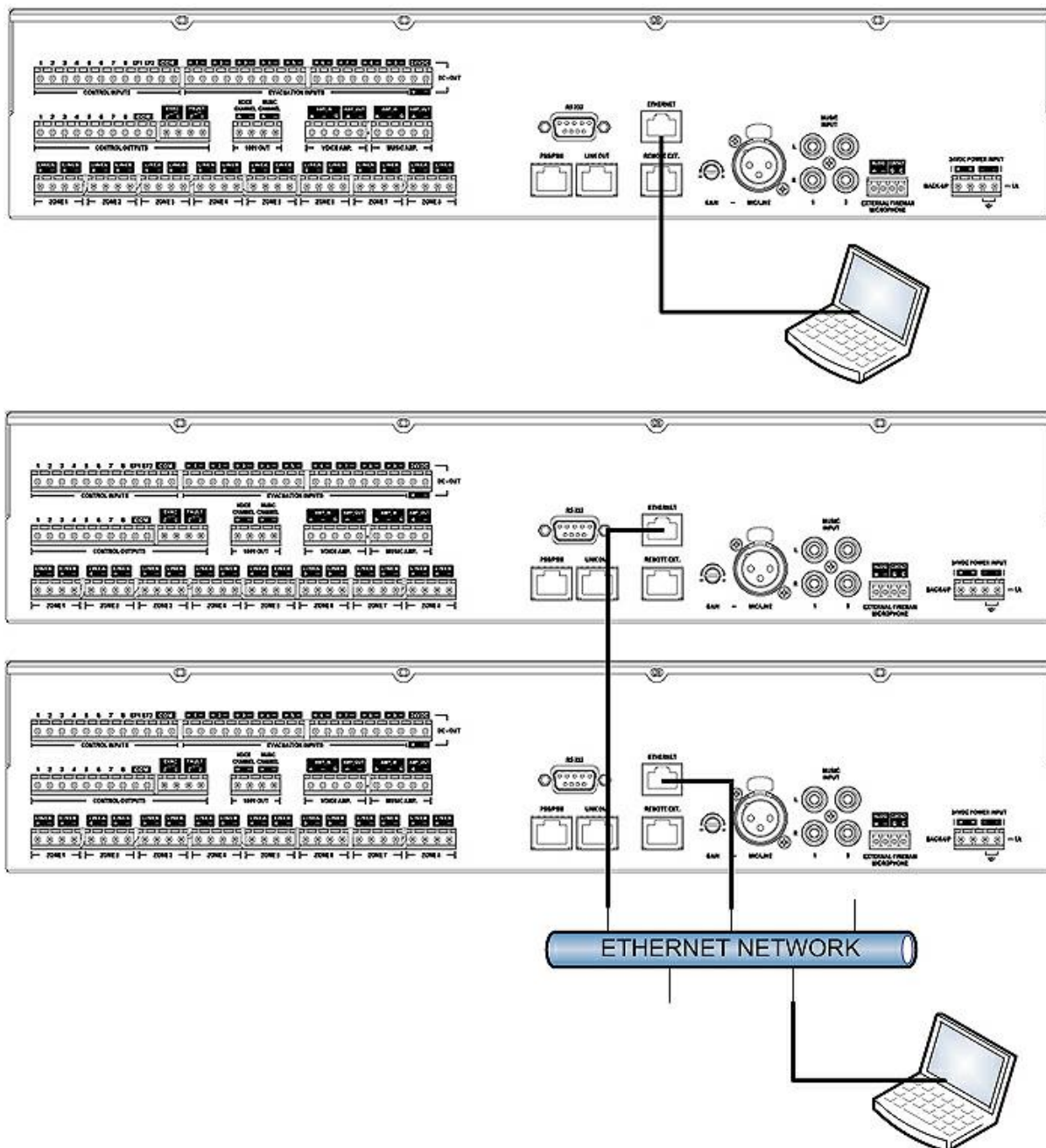
The PSSG2-E can be connected to any TCP/IP port in a network. The PSSG2-E can be powered through POE.



- Computer

The computer can be directly connected to a master DIVA by using a CAT5 cable or can be connected to a ethernet network using the same type of cable.

The next two schematics are example on how to connect masters DIVA to a computer.



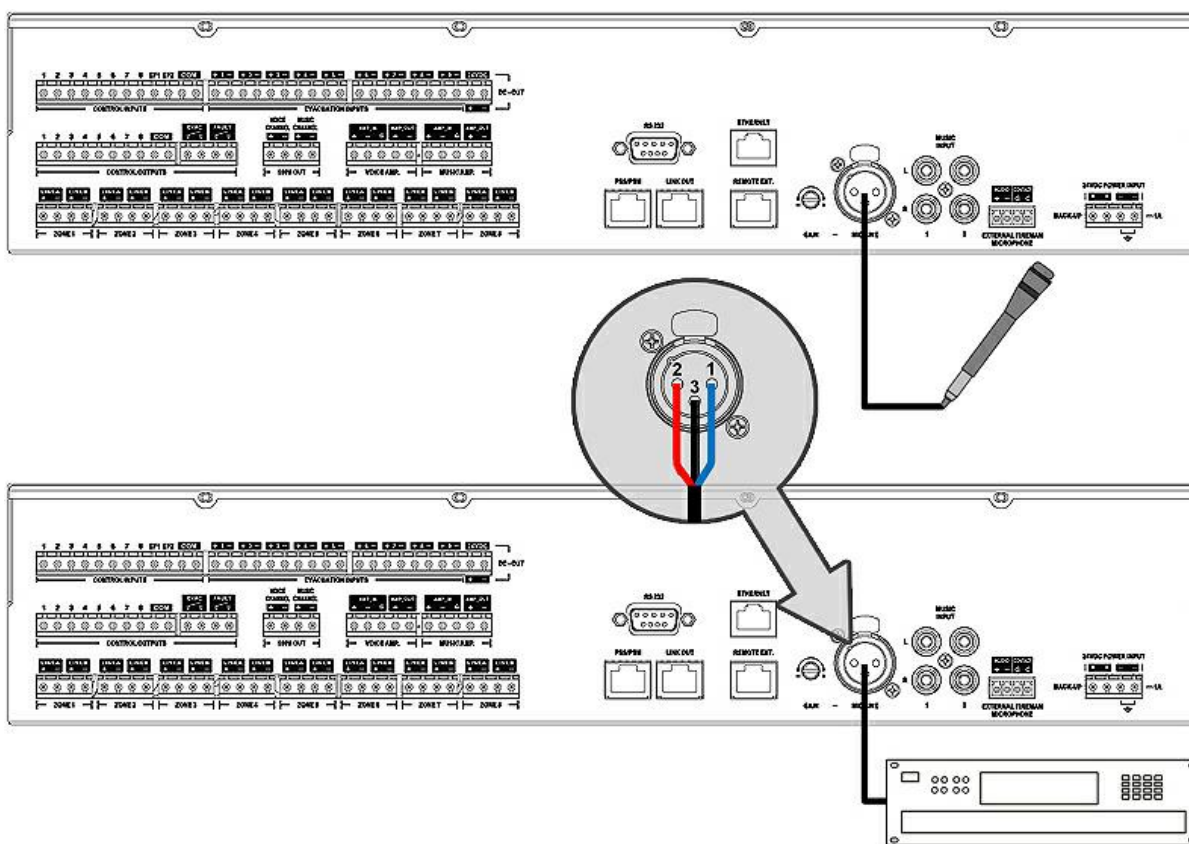
4.1.1.5.10 N) Mic/Line Input (XLR)



❖ Wiring

The MIC/Line input can be used as a microphone input or as a third music input. According to the schematics below, use a standard XLR cable to link the microphone to DIVA or connect the Left/Right channel of a music source to XLR connector of DIVA.

Note: gain must be adjusted in case of using microphone or a music source.



4.1.1.5.11 O) Music Inputs (RCA)

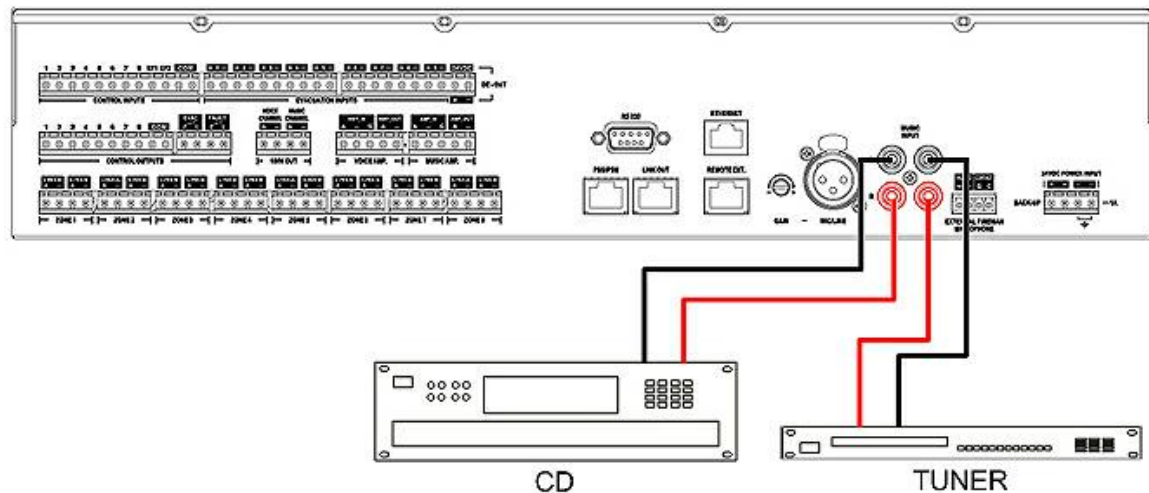
Two pairs of RCA connectors for audio input.



❖ Wiring

Connecting music sources to DIVA is easy thanks to the RCA connections. You have a left and right connection for both music sources.

Note: that DIVA is not a stereo player, all music sources are processed in mono.



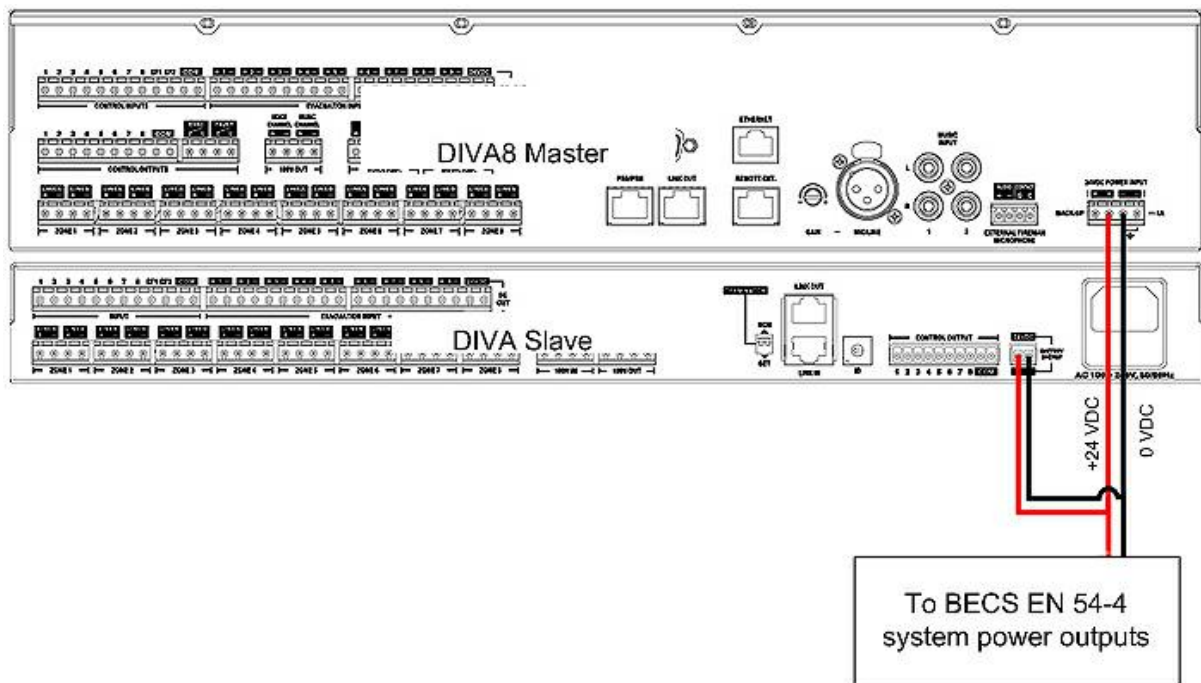
4.1.1.5.12 Q) Backup Power Input



❖ Wiring

The DIVA operating voltage supply is 24VDC. Please use only the provided power block or something equivalent.

To connect DIVA to a 24VDC power supply, use an euroblock connector in order to link the power supply to the 24VDC and 0V DIVA inputs.



In order to fulfill European standard, DIVA8 system should be connected to a battery charger and a security power supply (like Ateis BECS series).

4.1.1.6 Peripherals

Following table is the peripherals supported by DIVA8MG2:

Device	Connection	Max. Num	Function
PSMG2	PSS/PSM(RJ45)	10	Remote console for paging. Zone/Music select. Event Triggering Preset Control.
PSSG2	PSS/PSM(RJ45)	1	
PSSG2E	Eth. Limit	8	
VNB	RS232	2 (port1&2)	Level Control and Mic/Line-in select
CD8	PSS/PSM(RJ45)	1	Remote console for paging. Zone/Music select. Event Triggering. Preset Control.
CD16	PSS/PSM(RJ45)	1	
CD Touch	PSS/PSM(RJ45)	1	

- Max. Num means you can connect one or more peripheral units through the connector by using Junction Box. For example: On the RJ45, you can connect 10 PSM G2 through junction boxes.
- Eth. Limit: The maximum numbers of IP that can be assigned over the network.

4.1.1.7 Characteristics

❖ Case

- Dimension = 436mm (W) x 338mm(D) x 88mm(H)
- Weight = 7.5 Kg.
- Color = RAL7016.

❖ Screen

- 2" Color TFT panel.

❖ Power

Item	Voltage	Current Consumption	Comment
AC Input	100V~240V	1.2A	Frequency:47Hz~63Hz
DC Output	20~28V, Typical: 24V	1A	

❖ Audio micro/line Specification

Item	Condition	Min.	Typ.	Max.	Comment
Input Level (RCA)	20HZ ~ 22kHz	-	-	16dBu	Electrically Non-Balanced
Input Level (XLR3)	20HZ ~ 22kHz	-	-	16dBu	Electrically Balanced
Input Level (RJ45)	20HZ ~ 22kHz	-	-	16dBu	Electrically Balanced
Output Level	20HZ ~ 22kHz	-	-	16dBu	Electrically Balanced
Input Impedance	20Hz ~ 22kHz	9k Ohm	10k Ohm	11k Ohm	Electrically Balanced
Output Impedance	20Hz ~ 22kHz	40 Ohm	50 Ohm	60 Ohm	Electrically Balanced
Resolution			24bit		
Sensitivity (XLR3)		-60dBu		0dBu	hand adjust for XLR3
Sensitivity (other)			0dBu		
Sampling Rate			48kHz		
S/N(Line)	20Hz ~ 22kHz		>76dBu		
S/N(Mic)	20Hz ~ 22kHz		>78dBu		
T.H.D (XLR3)	20Hz~20kHz, @ gain 0dBu		<0.02%		
T.H.D (other)	20Hz~20kHz, @ gain 24dBu		<0.02%		

❖ Audio Fireman MIC Specification

Item	Condition	Min.	Typ.	Max.	Comment
Input Level (DIN5)	200HZ ~ 10kHz	-	-	16dBu	Electrically Balanced
Output Level	200HZ ~ 10kHz	-	-	16dBu	Electrically Balanced
Input Impedance	200Hz ~ 10kHz	9k Ohm	10k Ohm	11k Ohm	Electrically Balanced
Resolution			16Bit		
Sensitivity		-40dBu	-35dBu	-30dBu	
Sampling Rate			48kHz		
S/N	200Hz ~ 10kHz		>70dBu		
T.H.D	200Hz~10kHz, @ gain 35dBu		<0.8%		

❖ Audio Speaker Specification

Item	Condition	Min.	Typ.	Max.	Comment
Input Level	200HZ ~ 10kHz	-	-	16dBu	Electrically Balanced
Output Level	200HZ ~ 10kHz	-	-	16dBu	Electrically Balanced
Resolution			16Bit		
Sampling Rate			48kHz		
S/N	200Hz ~ 10kHz		>70dBu		
T.H.D	200Hz~10kHz, @ gain 0dBu		<5%		(8 ohm) Load

❖ Audio monitor Specification

Item	Condition	Min.	Typ.	Max.	Comment
Input Level	20HZ ~ 22kHz	-	-	16dBu	Electrically Non-Balanced
Output Level	20HZ ~ 22kHz	-	-	16dBu	Electrically Balanced
S/N	20Hz ~ 22kHz			-80dBu	
T.H.D	20Hz~20kHz,@ gain 24dBu		<0.03%		

❖ Audio AMP. Specification

Item	Condition	Min.	Typ.	Max.	Comment
Input Level	50HZ ~ 18KHz	-	100V	-	Electrically Balanced
Output Level (0dB)	50HZ ~ 18KHz	95V	100V	105V	Electrically Balanced
Output Level (-4dB)	50HZ ~ 18KHz	60V	63.1V	66.3V	Electrically Balanced
Output Level (-8dB)	50HZ ~ 18KHz	37.8V	39.8V	41.8V	Electrically Balanced
Output Level (-12dB)	50HZ ~ 18KHz	23.7V	25V	26.3V	Electrically Balanced
Output Level (-16dB)	50HZ ~ 18KHz	15.05V	15.85V	16.64V	Electrically Balanced
Output Level (-20dB)	50HZ ~ 18KHz	9.5V	10V	10.5V	Electrically Balanced
S/N(Line)	50Hz ~ 18KHz		>84dBu		
T.H.D + N ratio(Half power)	50Hz ~ 18kHz		<1%		
Input Max. Power				500W	

❖ GPIO Protection

- GPIO input Voltage limiting = 4.7VDC
- Evacuation input voltage limiting = 5.6VDC

❖ RS-485 Protection

- Transceiver signal voltage limiting = 10VDC

❖ Working Temperature.

- 0°C ~ 40°C

4.1.1.8 3rd Party Control

The following table list 3rd Party Control protocols DIVA8M Supported.

Protocol	Interface		Function
	Connection	Settings	
Vox@net/ Modan	RS232	Baud Rate = 9600 Data bit = 8 Stop bit = 1 Parity = No Parity	• Music Zone select • Mic/Line-in Zone select
Modbus	RS232	Baud Rate = 9600 Data bit = 8 Stop bit = 1 Parity = No Parity	See Modbus application protocol specification
Notifier	RS232	Baud Rate: same on fire panel Data bit = 8 Stop bit = 1 Parity = No Parity	Based on which Notifier Control Panels you choose.

4.1.1.9 LCD Menu

- ❖ The menu display offers the possibility to access different controls and system information. When in idle, it auto displays current time and date, see below.



- Press OK to enter in the menu.
- All selections and contents display like the picture below.



1st line: **SELECT DISPLAY**

2nd line: **depends on what topic you choose now.**

If it display the state below

1st line: **HIGHER LEVEL**

2nd line: **REQUIRED.**

Please log in the user account create in DIVA software. **Note:** the account data need to be stored in DIVA8M.

- ❖ Here are the list of menu topic you will be able to access:

- **EVAC LIST:**

In this menu, all evacuation occurrences will be listed from the youngest to the oldest.

- **EVAC ZONE LIST:**

In this menu, all evacuation zone occurrences will be listed from the youngest to the oldest.

- **FAULTS LIST:**

In this menu, all fault occurrences will be listed from the youngest to the oldest.

- **EVENTS LIST:**

In this menu, all operation occurrences will be listed from the youngest to the oldest.

- **SCHEDULER LIST:**

In this menu, it displays the scheduler setting in DIVA software.

- **READ MAC ADDRESS:**

Read Mac Address.

- **READ IP ADDRESS:**

Read IP Address.

- **READ SUBNET MASK:**

Read Subnet Address.

- **READ GATEWAY ADDRESS:**

Read Gateway Address.

- **READ PORT:**

Read Port, for DIVA it's 19900.

- **READ FIREMAN VERSION:**

Read Fireman version.

- **READ FPGA VERSION:**

Read FPGA version.

- **READ FIREWARE CRC:**

Read Cyclic redundancy check to confirm the update info exchanged correctly between fireware and DIVA8M.

- **READ CONFIG CRC:**

Read Cyclic redundancy check to confirm the data exchanged correctly between DIVA software and DIVA8M.

- **READ LOG RECORD:**

In the menu section of DIVA, you can read the Log File as well as clear it if needed.

For a complete list of Log File entry, please read the Log File Messages List chapter.

- **SETTING MENU:**

In this menu, you will be able to manage and set different configuration parameters.

Note: the The front panel buttons are described in the hardware description -> [Front View](#).

- User Login
- User Logout
- Stop All Events

- Fireman Level
- Mic Line Level
- Music 1 Level
- Music 2 Level
- Speaker Level
- System Time
- Mac Address
- IP Address
- Subnet Mask
- Gateway Address
- Port
- Reset Monitor
- Leakage Search
- Reset Leakage
- Logout Timer
- Menu Timer
- TFT Reset Timer
- System Fault Reset
- English Language
- Chinese Language
- Evac/Alarm Key Mode
- Leds/Logic Test

4.1.1.9.1 Evacuation List

In the event of an evacuation state in the DIVA system, the Evac Info List will be automatically display as a priority display. With the up and down arrow keys, you can go through the different evacuation process occurring in the system.

The youngest evacuation state/occurrence is displayed first. The evacuation status is displayed as follow:

1st line: EVAC LIST

2nd line: XXXXXXXX

Note: the XXXXXX depends on the name of the evacuation event used.

4.1.1.9.2 EVAC Zone List

In the event of an evacuation state in the DIVA system, the Evac zone Info List will be automatically display as a priority display. With the up and down arrow keys, you can go through the different evacuation process occurring in the system.

The youngest evacuation state/occurrence is displayed first. The evacuation status is displayed as follow:

1st line: EVAC ZONE LIST

2nd line: XXXXXXXX

Note: the XXXXXX depends on the name of the evacuation event used.

4.1.1.9.3 Fault List

In the event of a fault state in the DIVA system, the Fail Info List will be automatically displayed. With the up and down arrow keys, you can go through the different live fault occurrences in the system.

The youngest fault state/occurrence is displayed first. The fault state is displayed as follow:

1st line: FAULT LIST

2nd line: The fault message shows here

4.1.1.9.4 Events List

In the event of any non-evacuation audio routing in the DIVA system, the Normal Info List will be automatically displayed. With the up and down arrow keys, you can go through the different evacuation process occurring in the system.

The youngest evacuation state/occurrence is displayed first. The normal paging/audio routing status is displayed as follow:

1st line: EVENTS LIST

2nd line: The event status shows here

4.1.1.9.5 Scheduler List

In the event of all scheduler lists in the DIVA system, the Task List will be automatically display as a priority display. With the up and down arrow keys, you can go through the different task name in the system.

The youngest task name is displayed first. The ON/OFF is displayed as follow:

1st line: 001/001 SCHEDULER LIST

2nd line: Task1 OFF

4.1.1.9.6 Setting Menu

The function menu allows to set and read system configuration parameters. All the following menus and setting are available from front panel:

▼ User Login

The Login menu allows to log into a user account to avoid entering it at each secured menu.

From the SETTING MENU:

- Use arrow keys to access the USER LOGIN menu.
- Press OK.
- It display the current user account Level, default is Level 1.
- Press OK.
- Enter an Username and a Password.
 - Once the Username/Password has been entered correctly, choose APL (right after numbers and alphabet) to apply.
- It displays the current user account level.
- Press ESC to go out of the menu.

▼ User Logout

In case of multi-user levelling, you can logout from the current user session in order to login in an other one.

From the SETTING MENU:

- Use arrow keys to access the USER LOGOUT menu.
- Press OK, it will display "Sure? OK/ESC".
- Press OK.
 - You will be prompt to login.
 - Enter your user name.
 - Enter your password.
 - You will be log in your user account.
- Press ESC to go out of the menu.

▼ Stop All Events

From the front panel of DIVA, you are able to stop all the running events (events are discussed in How to use events).

From the SETTING MENU:

- Use arrow keys to access the STOP ALL EVENTS menu.
- Press OK.
- You will be asked for validation: "SURE? OK/ESC".
- If yes, Press OK.

- It displays "EXECUTE SUCCESS".
- If no, press ESC.

▼ Set Levels

The following level you can set with Up/Down arrow buttons and Plus, Minus buttons.

From the SETTING MENU:

- Use arrow keys to choose topics
 - FIREMAN LEVEL (User level 4 required)
 - MIC LINE LEVEL
 - MUSIC 1 LEVEL
 - MUSIC 2 LEVEL
- Press OK.

▼ Set System Time

On DIVA front panel, you can set the current location time format as well as the current date and time.
(User level 2 required)

From the SETTING MENU:

- Use arrow keys to access the SET SYSTEM TIME menu.
- Press OK.
- The program displays SET YEAR.
- Use + or - keys to adjust the year value.
- Press down arrow to go to the next step (SET MONTH).
- Use + or - keys to adjust the month value.
- Press down arrow to go to the next step (SET DATE).
- Use + or - keys to adjust the date value.
- Press down arrow to go to the next step (SET HOUR).
- Use + or - keys to adjust the hour value.
- Press down arrow to go to the next step (SET MINUTE).
- Use + or - keys to adjust the minute value.
- Press down arrow to go to the next step (SET SECOND).
- Use + or - keys to adjust the second value.
- Press OK to validate your entries.
- At anytime, pressing ESC will ends the date and time setting process.

▼ Set Address & Port

From the SETTING MENU:

- Use arrow keys to choose topics
 - MAC ADDRESS (User level 4 required)

In the world of computer networking, there is one common way to set an quasi-unique identifier to a network device.

This is the MAC address (Media Access Control Address). This number act like a name for one particular network device. **Note:** If it's changed, DIVA can't connect to network.

To see the MAC address just follow these steps:

From the main MENU:

- Choose READ MAC ADDRESS.
- press OK, the MAC Address number is displayed.
- Press ESC to go out of the menu.

To change the MAC address just following these steps:

From the SETTING MENU:

- Press OK.
- Enter the address value using arrow keys and +/- keys, it displays 12 numbers.
- Press OK.
- IP ADDRESS (User level 3 required)

The following steps show how to change IP Address:

- Press OK.
- Enter the IP address value using arrow keys and +/- keys. Default address is 192.168.100.100.
- Press OK.
- You will be asked for validation "REBOOT VALIDATE". Note: after each change in the Ethernet settings, the DIVA system need to reboot.
- If yes, press OK.
- If no, press ESC.
- SUBNET ADDRESS (User level 3 required)
 - Press OK.
 - Enter the subnet mask value using arrow keys and +/- keys. Default mask is 255.255.255.000.
 - Press OK.

- You will be asked for validation "REBOOT VALIDATE". Note: after each change in the Ethernet settings, the DIVA system need to reboot.
- If yes, press OK.
- If no, press ESC.
- GATEWAY ADDRESS (User level 3 required)
 - Press OK.
 - Enter the gateway address value using arrow keys and +/- keys. Default address is 192.168.100.001.
 - Press OK.
 - You will be asked for validation "REBOOT VALIDATE". **Note:** after each change in the Ethernet settings, the DIVA system need to reboot.
 - If yes, press OK.
 - If no, press ESC.
- PORT (User level 3 required)
 - Press OK.
 - Enter the UDP port value using arrow keys and +/- keys. Default UDP port value is 19900.
 - Press OK.
 - You will be asked for validation "REBOOT VALIDATE". **Note:** after each change in the Ethernet settings, the DIVA system need to reboot.
 - If yes, press OK.
 - If no, press ESC.

▼ Reset Monitor

From the SETTING MENU:

- Use arrow keys to access the RESET MONITOR menu.
- Press OK.
- You will be asked for validation: "SURE? OK/ESC".
- If yes, Press OK.
 - It displays "EXECUTE SUCCESS"
- If no, press ESC.

▼ Leakage Search

From the SETTING MENU:

- Use arrow keys to access the LEAKAGE SEARCH menu.

- Press OK.
- You will be asked for validation: "SURE? OK/ESC".
- If yes, Press OK.
 - It costs few minutes on searching, about 16 seconds per Slave unit.
 - The LCD screen will displays "LEAK SEARCH STOP" while searching.
 - if you want to stop the searching, Press OK. Otherwise, Press ESC, it will add the searching into event.
- If no, press ESC.

▼ Reset Leakage

From the SETTING MENU:

- Use arrow keys to access the RESET LEAKAGE menu.
- Press OK.
- You will be asked for validation: "SURE? OK/ESC".
- If yes, Press OK.
 - It displays "EXECUTE SUCCESS"
- If no, press ESC.

▼ System Fault Reset

From the SETTING MENU:

- Use arrow keys to access the SYSTEM FAULT RESET menu.
- Press OK.
- You will be asked for validation: "SURE? OK/ESC".
- If yes, Press OK.
 - It displays "EXECUTE SUCCESS".
- If no, press ESC.

▼ Set Timer

From the SETTING MENU:

- Use arrow keys to choose topics
 - LOGOUT TIMER
 - It will automatically log out users if they're idle over the logout time.
 - MENU TIMER
 - It will automatically display current time and date. if they're idle over the Menu time.

- TFT RESET TIMER

To adjust the image position and colors of TFT screen in period.

- Press OK.
- Use + or - keys to set the time (Numbers 0~9).
- Press OK.

▼ Language

Change front panel language.

From the SETTING MENU:

- Use arrow keys to choose topics.
 - ENGLISH LANGUAGE
 - CHINESE LANGUAGE
- Press OK.
- You will be asked for validation: "SURE? OK/ESC".
- If yes, Press OK.
- If no, press ESC.

▼ Evac/Alarm Key Mode

From the SETTING MENU:

- Use arrow keys to access the EVAC/ALARM KEY MODE menu.
- Press OK.
- You will be asked for validation: "SURE? OK/ESC".
- If yes, Press OK.
- If no, press ESC.

▼ LEDs/Logic Test

From the SETTING MENU:

- Use arrow keys to access the LEDS/LOGICS TEST menu. (User level 4 required)
- Use arrow keys to choose topics.
 - LED TEST
 - LOGIC OUT TEST
 - TFT DISPLAY TEST
- Press OK, it will start to test.
- Press ESC, it will stop testing.

4.1.1.9.7 Managing Music Sources

On DIVA front panel, you have the possibility to assigned music sources to a zone (or multiple), set up attenuation for each speaker zone (only on music).

To manage music source, the music sources should be set in "Route Key" mode, see [How To Use Music Source](#).

❖ The procedure to assign a music source to a zone is the following:

- Select the music source:
 - Press the SELECT button to go from Source 1 to Source 2.
 - Press SELECT button to go from Source 2 to no selection.
 - Press SELECT button to re-select Source 1.
- Select the zone(s):
 - Press the zone button(s) you want to activate on Master and/or Slaves. The corresponding white selection LED(s) should light(s) up.
- Validate the routing by pressing the ROUTE button.

❖ Zone attenuators:

In each master zone, the music level can be attenuated depending your needs. The attenuators offer 6 attenuation positions: 0, -4, -8, -12, -16, -20 dB.

- Adjust the corresponding zone(s) ATTENUATOR KNOBS to the desired attenuation level.

Note: Zones that are monitored cannot be attenuated to -20dB without causing monitoring problems. At -20dB attenuation, the accuracy of the impedance circuitry reach its limit.

Note: If two music sources are used, keep in mind that attenuator will only have effect on only one of them (music 1). Because the Voice amplifier will be used for music 2, the attenuators won't have any effect on the sound level.

Note: Music attenuator are only available on Master DIVA unit.

4.1.1.9.8 Messages and Microphone Calls

From the front panel, you have the choice two start three different messages or do a zone call with the fireman microphone. Read the following two chapters for more information about [how to set up messages](#) and [configure the Fireman Microphone](#).

There are three front panel message buttons plus one reset button:

- **EVAC:** initiates a evacuation message broadcasting process.
- **ALERT:** initiates a evacuation message broadcasting process.
- **MSG TEST:** initiates a evacuation message broadcasting process.
- **RESET:** initiate a software reset process.

❖ Messages

Depending on the software configuration created, there is two distinct way of starting a message: with manual zone selection or with pre-defined zone.

To learn more about how to set pre-defined zone on message, please read the "[How to set up front panel messages](#)" chapter.

▼ **Starting message with Pre-define zone(s)**

- From EVAC button
 - Lift the EVAC button cover.
 - Press the EVAC button.
 - DIVA displays "EVAC KEY PROCESS".
 - Press OK.
 - DIVA displays "EVAC CONFIRM 1 SURE? OK/ESC".
 - Press OK.
 - DIVA displays "EVAC CONFIRM 2 SURE? OK/ESC".
 - Press OK.
 - The message is played in the pre-defined zone(s).
- From ALERT button
 - Press the ALERT button.
 - DIVA displays "ALERT KEY PROCESS".
 - Press OK.
 - DIVA displays "ALERT COMFIRM 1 SURE? OK/ESC".
 - Press OK.
 - DIVA displays "ALERT CONFIRM 2 SURE? OK/ESC".
 - Press OK.
 - The message is played in the pre-defined zone(s).
- From MSG TEST button
 - Press the MSG TEST button.
 - DIVA displays "TEST KEY PROCESS".
 - Press OK.
 - DIVA displays "TEST CONFIRM 1 SURE? OK/ESC".
 - Press OK.
 - DIVA displays "TEST CONFIRM SURE? OK/ESC".
 - Press OK.

- The message is played in the pre-defined zone(s).

▼ **Starting message with a manual zone(s) selection**

- Press the zone button(s) where you want the message to be played. The corresponding white selection LED(s) should light(s) up.
- From EVAC button
 - Lift the EVAC button cover.
 - Press the EVAC button.
 - DIVA displays "EVAC KEY PROCESS".
 - Press OK.
 - DIVA displays "EVAC ENABLE 1 SURE? OK/ESC".
 - Press OK.
 - DIVA displays "EVAC ENABLE 2 SURE? OK/ESC".
 - Press OK.
 - The message is played in the manually selected zone(s).
- Press the zone button(s) where you want the message to be played. The corresponding white selection LED(s) should light(s) up.
- From ALERT button
 - Press the ALERT button.
 - DIVA displays "ALERT KEY PROCESS".
 - Press OK.
 - DIVA displays "ALERT ENABLE 1 SURE? OK/ESC".
 - Press OK.
 - DIVA displays "ALERT ENABLE 2 SURE? OK/ESC".
 - Press OK.
 - The message is played in the pre-defined zone(s).
- Press the zone button(s) where you want the message to be played. The corresponding white selection LED(s) should light(s) up.
- From MSG TEST button
 - Press the MSG TEST button.
 - DIVA displays "TEST KEY PROCESS".
 - Press OK.
 - DIVA displays "TEST ENABLE 1 SURE? OK/ESC".

- Press OK.
- DIVA displays "TEST ENABLE 2 SURE? OK/ESC".
- Press OK.
- The message is played in the pre-defined zone(s).

▼ Stopping message broadcasting

- Reset the evacuation process.
 - Press the RESET button.
 - DIVA displays "RESET KEY PROCESS".
 - Press OK.
 - DIVA displays "RESET ENABLE 1 SURE? OK/ESC".
 - Press OK.
 - DIVA displays "RESET ENABLE 2 SURE? OK/ESC".
 - Press OK.
 - A software reset is applied. Any active trigger (fault, contact, etc) are restarted after the software reset.
- Stop ALERT or MSG TEST broadcasting.
 - Press the ALERT or MSG TEST button.
 - DIVA displays "ALERT or MSG TEST KEY PROCESS".
 - Press OK.
 - DIVA displays "ALERT or MSG TEST DISABLE 1 SURE? OK/ESC".
 - Press OK.
 - DIVA displays "ALERT or MSG TEST DISABLE 2 SURE? OK/ESC".
 - Press OK.
 - The message broadcasting is stopped.

❖ Fireman Microphone

Depending on the software configuration created, there is two distinct way of starting a Fireman microphone call:

with a manual zone selection or with pre-define zone(s) selection. To learn more on how to configure pre-define zone selection fro the fireman microphone, please read the "how to use a fireman microphone" chapter.

▼ Starting a call with pre-define zone(s)

- Press the fireman microphone contact to start speaking in the pre-defined zone(s), the corresponding zone EVAC LED(s) are lit.

▼ Starting a call with manual zone(s) selection

- Press the zone button(s) where you want the call to be played. The corresponding white selection LED(s) are lit.
- Press the fireman microphone contact to start speaking in the selected zone(s), the corresponding zone EVAC LED(s) are lit.

▼ Stopping a fireman microphone call

- Release the fireman microphone contact if used in "push to talk" mode.
- Press the fireman microphone contact a second time if used in "Lock to talk" mode. **Note:** if the fireman microphone is using a pre and/or post chime message, the "RUNNING" LED will blink during the chime broadcasting.

4.1.2 DIVA8S

4.1.2.1 Overview



DIVA8SG2 is a Slave unit for the DIVA8MG2 master unit. It increases the number of paging zones by 8 zones for each Slave unit added in the system. The maximum number of Slave units is 15, which means a complete system (master plus slaves) of up to 128 zones.

The DIVA8S Slave Unit also extends the amount of input and output contacts. It includes 9 alarm inputs triggered either by dry contact or voltage (software setting), 8 logic input contacts, 2 external fault input contacts and 8 output contacts.

The DIVA8S Slave Unit offers the same power capacity as the master unit being 1000 W of audio power (100 V) on each amplifier channel (voice and music).

For maximum flexibility, the master unit amplifiers can share their power with all the slaves, or additional amplifier channels can be added to the system where more output power is needed. The 100 V amplifier signal is simply linked to slaves to create a 100 V signal bus. See figure 1 and 2 for wiring examples.

All the zones and amplifier channels in the DIVA8 System can be constantly monitored (software setting).

Like DIVA8M Master unit and DIVA8S Slave unit can be directly supplied with 110 V-230 V or powered by 24 VDC as a battery backup. The DIVA8M Master unit and the DIVA8S Slave unit are linked using shielded CAT5 cable.

As a part of the DIVA8 system, The DIVA8S Slave unit complies with current standards.

❖ DIVA8S is made of:

- 8 loudspeaker zones extension (A + B).
- 1000 W max power on each channel.
- 9 evacuation input contacts (with surveillance).
- 8 logic input contacts.
- 2 fault input contacts.
- 8 output contacts.
- Front panel zone selection buttons.
- 1U 19".

❖ Linking

To connect one slave DIVA to a master simply connect the "Link Out" connector of the Master to the "Link In" of the slave with a RJ-45 CAT5 cable and so on for the next slave unit. To pass the audio to the slave unit, simply connect the Master "100V Link" connector to the slave "100V In" connectors. If more than 500W of power is needed, you can add two amplifier channels per slave unit. To synchronize the audio, simply link the 0dB output of the master to the additional amplifiers 0dB input and additional amplifier 100V output to the corresponding 100V slave input.

The schematic below shows how to perform a DIVA system with 1 master and 2 slave units using the same amplifier.

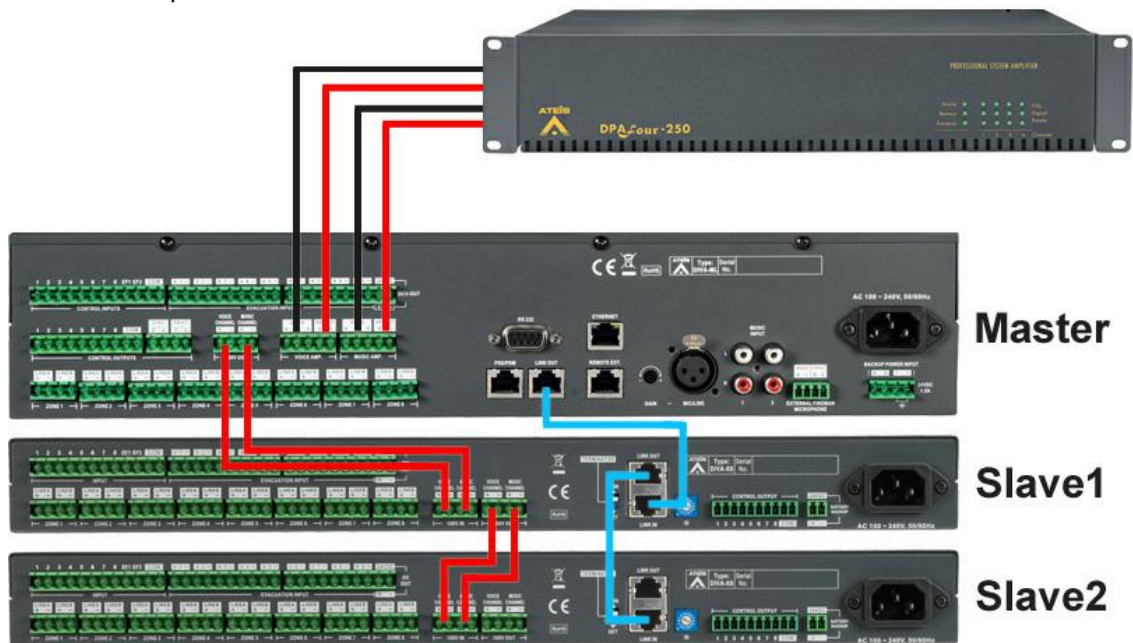


Figure1: DIVA8M Master unit and DIVA8S Slave unit

The schematic below shows how to perform a DIVA system with two additional amplifiers.

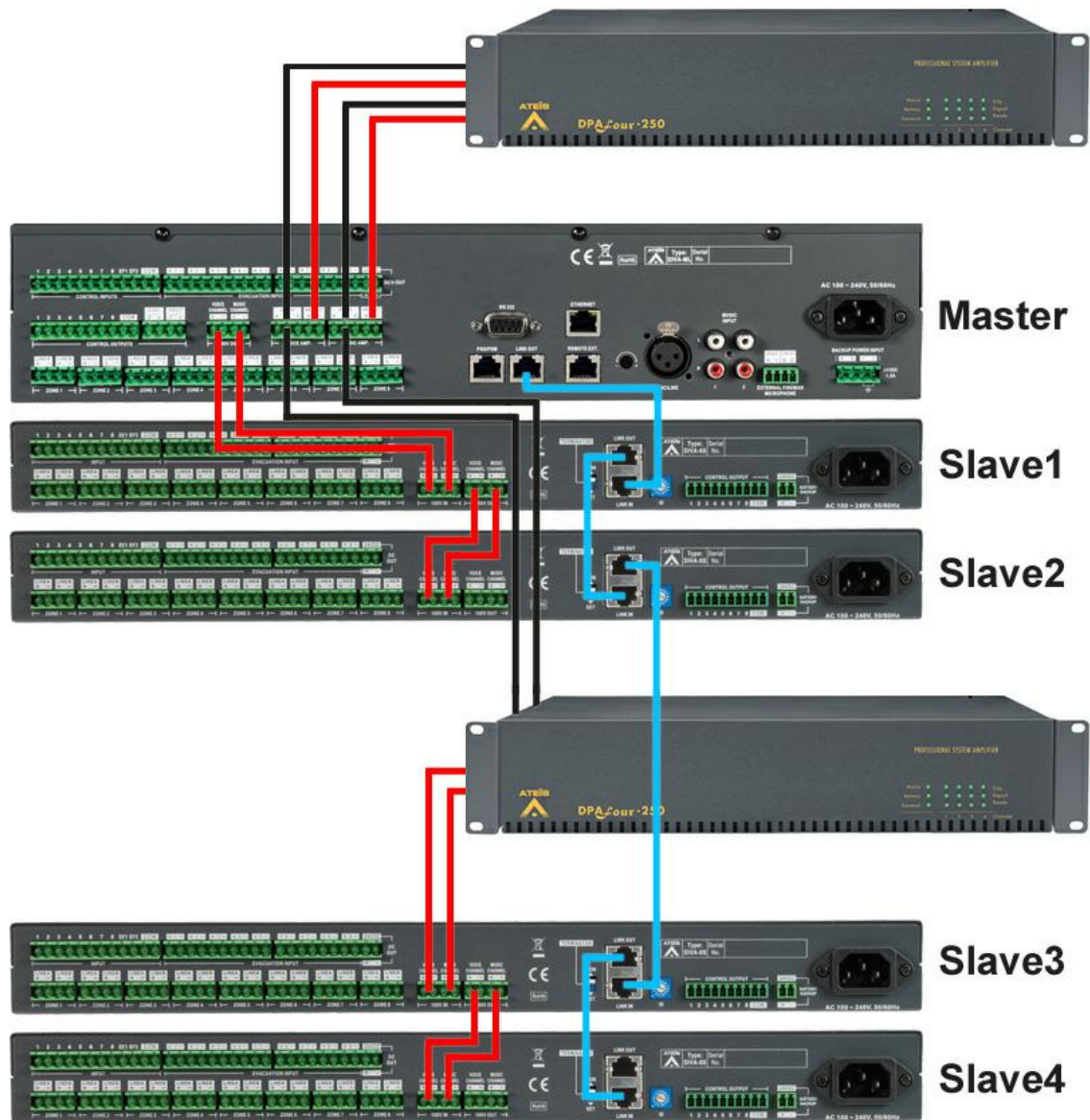


Figure2: DPA8M Master unit and DPA8S Slave unit with 4 amplifier channels

On both schematics, the 0dB lines are displayed in black and 100V lines in red.

Note: connections are not fully described (example: 0dB line is described as one wire instead of 3).

Characteristics (COMBINED with DPA8M Master unit)

- Up to 128 zones switching system.
- 5 audio inputs (2x Music, 1x Mic/line, 1x PSS or PSM, 1x Fireman microphone).
- 45 min of message memory.
- Full amplifiers and zones monitoring.
- Single and Dual channel switching. (See DPA8M Application / [example 2](#))

4.1.2.2 What's inside the Box

Opening the box you should find the following items:

- DIVA slave Unit Rack rounting brackets, 2 pcs.
- Metal screws Philips M3x6, 6 pcs. 12-way euroblock connectors, 1 pcs.
- 10-way euroblock connectors, 3 pcs.
- 4-way euroblock connector, 10 pcs.
- 10-way mini euroblock connectors, 1 pcs.
- 2-ways mini euroblock connector, 1 pcs.
- 230 VAC power cable.

If you realize anything missing, please contact your distributor.

4.1.2.3 Installation

In the Box of the DIVA there is containing a letter with a point by point instruction that need to be followed for safety reasons.

❖ Rack mounting:

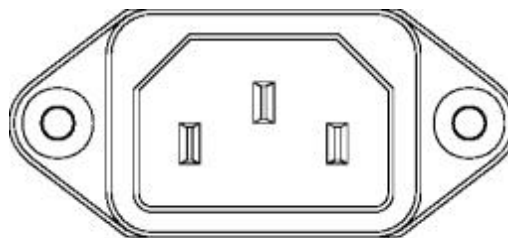
If needed, fit the rack mounting brackets to each side of the DIVA by using the 6 pcs Phillips M3x6 screws supplied with the package.

❖ Sitting:

The DIVA unit takes a 2U 19" rack space and generates little heat itself. Consider leaving enough ventilation space above and below the unit. Do not mount the DIVA directly above heat generating devices like power supplies or power amplifiers.

❖ Power connection:

DIVA accepts 24 VDC power supply as well as 230 VAC power supply. In order to be EN54 compliant, use a BECs battery charger and power supply and connect it on a 4-way euroblock connector respecting the polarity.



100-240 VAC 50/60Hz

4.1.2.4 Front Panel



A Power indicator LED:

Indicates the power status of the DIVA.

B Voice alarm control and indicating equipment indicators:

There are eight rows of 4 LEDs that show in real-time mode the zones' status:

- EVAC
- FAULT
- ALERT/PAGE
- SELECTED

C Zone selection buttons:

Select or deselect zone for manual routing.

4.1.2.5 Rear Panel



A Logic and external fault inputs:

There is eight logic inputs that are two states input (open contact, close contact). The same as [DIVA Master unit](#).

External faults input are normally reserved to connect security devices like monitored power supply. Those two inputs can be used to put DIVA into a security mode, security mode will be discussed in the [event chapter](#).

B Evacuation inputs:

Evacuation inputs are contact inputs that allows the monitoring of external contact. They also can be used in UGA mode, trigger by a voltage polarization change. This connector supplies a 24VDC source. The same as [DIVA Master unit](#).

C Master-Slave link:

Connectors to create a master-slave DIVA system. About wiring, [see Overview](#).

D 24VDC input:

24VDC power supply for battery operation. The same as [DIVA Master unit](#).

E Speaker Zone Outputs:

Eight speaker zone connectors split into A and B line. The same as [DIVA Master unit](#).

F 100V Signal Links:

100V input to receive 100V signal from an amplifier connected to another DIVA(M or S) unit. 100V output to send 100V signal to others DIVA(M or S) unit. The same as [DIVA Master unit](#).

G Terminator:

This switch define the end of the Master-Slave system.

H Slave ID:

This rotary switch is used to set an ID to each Slave in the system.

I Logic output:

Eight Logic outputs to send a pulse or a static closing/opening to an external device. the same as [DIVA Master unit](#).

J Power Section:

Insert provided power cable first into DIVA8S then in the wall power connector. 110~240 V 1.2A, 47~63Hz AC power input with fuse.
Fuse rating: 1.6A.

4.1.2.6 Characteristics

❖ Case

- Dimension = 431mm (W) x 277(D) x 44mm(H)
- Weight = 3.9 Kg.
- Color = RAL7016.

❖ Power

Item	Voltage	Current Consumption	Comment
AC Input	100V~240V	1.2A	Frequency:47Hz~63Hz
DC Output	20~28V, Typical: 24V	1A	

❖ Audio monitor Specification

Item	Condition	Min.	Typ.	Max.	Comment
Input Level	20HZ ~ 22kHz	-	-	16dBu	Electrically Non-Balanced
Output Level	20HZ ~ 22kHz	-	-	16dBu	Electrically Balanced
S/N	20Hz ~ 22kHz		-80dBu	-	-
T.H.D	20Hz~20kHz,@ gain 24dBu	-	-	0.02%	-

❖ Audio AMP. Specification

Item	Condition	Min.	Typ.	Max.	Comment
Input Level	50HZ ~ 18KHz	-	100V	-	Electrically Balanced
Output Level (0dB)	50HZ ~ 18KHz	95V	100V	105V	Electrically Balanced
S/N(Line)	50Hz ~ 18KHz	-	>84dBu	-	-
T.H.D + N ratio (Half power)	50Hz ~ 18kHz	--	<1%	-	-
Input Max. Power	-	-	-	500W	-

❖ GPIO Protection

- GPIO input Voltage limiting = 4.7VDC
- Evacuation input voltage limiting = 5.6VDC

❖ RS-485 Protection

- Transceiver signal voltage limiting = 10VDC

❖ Working Temperature.

- 0°C ~ 40°C

4.2 Consoles and Accessories

4.2.1 Fireman Microphone

The Fireman Microphone SHM 1 is a small compact microphone dedicated to security calling.



It is a totally monitored microphone with internal resistor network to detect four different states (Shortcut, Closed Contact, Open Contact, Absent).

Firemen Microphone SHM 1 for All call, group or zone calls. The EN-54 surveillance is realized thanks to the DIVA internal circuitry.

4.2.1.1 Characteristics

❖ Case

- Dimension = 62mm (W) x 45mm (L) x 102mm (H).
- Weight = 0.15KG
- Cable = 1.8M(spring cord)

❖ Microphone

- Bandwidth @ -3dB = 300Hz ~ 6kHz.
- Impedance = 500ohm.
- Sensitivity = -72dB

4.2.1.2 Configuration

In order to use the fireman microphone, first drag and drop the fireman microphone from the [Design Component Section](#) to the Master window. Double click the fireman microphone icon to enter the Fireman Microphone window (see below).

Here is a list of controls and indicator in the fireman microphone window:



- Advance Setting: by clicking the Edit button you will enter the fireman microphone event setting window. Please see below.

Note: the fireman microphone default paging mode is always push to talk. By default, the priority of the fireman microphone is set to zero, the highest priority available, and the security and evacuation options are ticked. The fireman microphone have been designed to be an emergency paging element, so be careful when changing priority and security settings.

- Security: by ticking security, you will allow user to make a call when DIVA is in security mode
- Evacuation: ticking this option will make the fireman microphone an evacuation source

- Level (dB): when connected to DIVA, you can adjust, real time mode, the level of the fireman microphone
- Volume (dB): indicates the current output level of the fireman microphone
- Clip Threshold (dB): allows to set the threshold point for the Clip indicator
- Level Overflow: this is a LED indicators that light up when a too high level is detected on the fireman microphone
- Clip: indicates when the signal is clipping
- Push to talk: with this option ticked, you will need to keep the microphone button pressed in order to be able to talk
- Lock To Talk: with this option ticked, one pressure on the microphone button will start the call and one more pressure will stop the call. For safe operations, you can set a time after which the call is automatically stopped
- Enable Release Time: ticking this option will stop the fireman microphone call after the amount of time defined. This is used in order to avoid deactivation issue.

Fireman Mic Paging Event

Type: Fireman Mic Paging Priority: 0 (Zero equals highest)

Name: Fireman Paging Attrib.: ☒ Security ☒ Evacuation

Start Impulse Stop Impulse

☐ Enable

☒ Pulse: 50 ms ☐ Static

Device	Logic Output Channel								
	All	1	2	3	4	5	6	7	8
Master	☐	☐	☐	☐	☐	☐	☐	☐	☐

ACK Relay Busy Relay

☐ Enable

Device	Logic Output Channel								
	All	1	2	3	4	5	6	7	8
Master	☐	☐	☐	☐	☐	☐	☐	☐	☐

Conflict ☐ Cancel All ☒ Coexist

Pre Chime ☐ Pre Chime Enable

Post Chime ☐ Post Chime Enable

Pre-define Zone ☐ Pre-define Zone Enable

All	Master 1								
	All	1	2	3	4	5	6	7	8
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

OK Cancel

The Fireman Microphone Paging Event window (see above) is divided in several section where can set:

- Priority: you can specify a priority level between 20 and zero. The highest priority level is 0 when 20 is the lowest
- Security: by ticking security, you will allow user to make a call when DIVA is in security mode
- Evacuation: ticking this option will make the fireman microphone an evacuation source

Note: the security and evacuation options are automatically passed to the event accessible in the Advance Setting

- The next portion of the window is dedicated to the output relay management. In order to find out to use please see "[How to Use Output Relay](#)".
- Conflict: here you can choose how to manage priority conflict. "Cancel All" consists of cancelling all the messages or events, with a lower priority, that are currently playing in the selected zone. "Coexist" permit to momentarily disable the current message or event and to retrieve it as soon as the one with a higher priority has finished.
- Pre-Chime: the pre-chime option allows to play a chime message before each call. You can choose the chime message using the drop-down menu.
- Pre-define Zone: by ticking this option you will be able to select pre-define zone in which the call will be made. Pre-defining zones don't disable the front-panel zones selector. As soon as a call in non pre-defined zone is finished, the next call will be automatically rerouted in the pre-defined zone after the amount of time set in the fireman microphone main window.
- By clicking Ok you will validate your settings, Cancel will annulled the current settings.

4.2.2 PSM

4.2.2.1 Overview



Unidirectional Condenser Addressable Microphone, compatible with all system units, PSM uses an

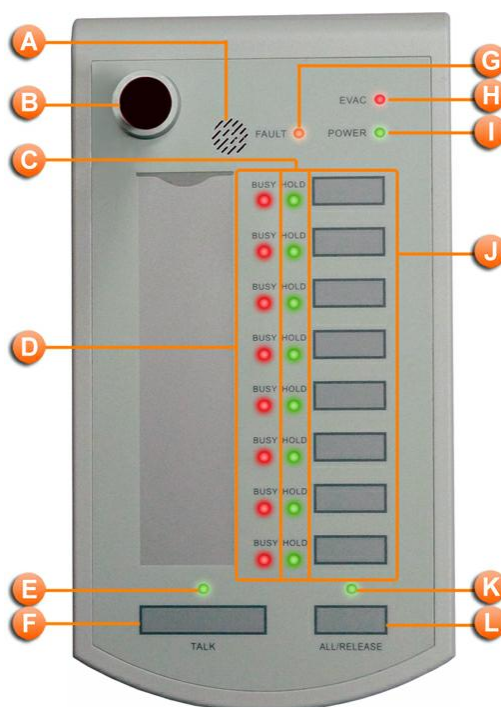
RS485 protocol over a single CAT5 cable connection, to transport both Audio and Power from the PSM to the system units. The PSM comprises of 8 zones / 8 buttons with sleek condenser gooseneck microphone, and spring metal protection, providing durability and excellent aesthetics as well as allowing up to 256 zones expansion via the additional Keypad easy extension station. The buttons can represent a single zone or a group of zones and are easily defined via the GUI of the system units using a simple Matrix selection.

The unit offers “Hold” and “Busy” LED signals in addition to the zone LED’s, and these allow the easy identification of selection / Busy signals for the user.

All buttons can be programmed with drag & drop features from the System unit GUI software and each button can be programmed for Push To Talk or Latch functionality. The unidirectional condenser microphone warrants high quality directive signal pick up from the user and hence less interference from the surroundings thanks to the cardioid polar pick-up pattern.

The RS485 communication protocol offers daisy chaining of up to 100 m on a CAT5 cable, and yet makes outlets easy to connect via a standard RJ45 connectors. (The microphone compatibility listing shows the maximum number of units per System).

4.2.2.2 Control Panel



A Monitoring Speaker:

This embedded speaker to play chime when paging or monitor signal from audio processor, it needs to work with rs485 output component to get audio signal from other DSP components in audio processor.

B Microphone:

The sleek condenser gooseneck microphone. This unidirectional condenser microphone warrants

high quality directive signal pick up from the user and hence less interference from the surroundings.

C Hold LED:

These LEDs Indicate which keys are selected.

D Busy LED:

Show the status of zone.

E Talk Indicator:

This LED light up if it is allowed to paging, on the other word, the paging request has been acknowledged. Sometime after paging request is granted, zones under paging still can be occupied by other sources. In such a case, the talk led still light up, but you can check busy LED to know the situation.

F Talk Key:

Push this key to request paging.

G Fault LED:

To display fault status of system.

H EVAC LED:

"Plug-in" make audio processor to recognize the peripheral devices.

I Power LED:

This LED light up when the PPM AS is powered on.

J Event Select Key:

These buttons are used to select keys, each key may link to an event for triggering actions like paging or adjust the value of parameters.

K All/Release LED:

This indicator lights up if all keys are selected.

L All/Release Button:

This button is used to select or deselect all keys.

4.2.2.3 LED Indicators

Status	POWER	EVAC	FAULT	BUSY	HOLD
Inserting power supply	Continuous	Continuous	Continuous	Scrolling once	Scrolling once
Display firmware's version (EX: v4.7)	Continuous	Continuous	Continuous	4 LEDs blink once	7 LEDs blink once
Lost communication with Audio Processor	-	-	-	Slowly scrolling	Slowly scrolling
Communicate with Audio Processor successfully	Continuous	Goes off after seconds	Goes off after seconds	-	-
Stored in software	Continuous	Continuous	Continuous	Scrolling once	Scrolling once

Status	POWER	EVAC	FAULT	BUSY	HOLD
Press Event Select Key	-	-	-	-	Continuous
Using selected zones	-	-	-	Continuous	Continuous
Status	TALK				
Press talk button	The LED blinks when the pre-chime is playing. When the microphone's used, the LED continuously lights.				

4.2.2.4 Characteristics

❖ Case

Dimension = 105mm (W) x 190mm (L) x 50mm (H).

Weight = 0.7Kg.

Color = RAL7035.

Goose-neck length with microphone = 300 mm

❖ Power

Item	Voltage	Current Consumption	Comment
DC Input	18V~26V, Typical 24V	120mA	-

❖ Microphone Output

- Maximum level = 6dBu.
- Output Impedance = 100Ohm.
- THD @ 1kHz < 1%.
- Bandwidth @ -3dB = 100Hz ~ 18kHz.

❖ Front Panel Speaker

- Impedance = 4Ohm.
- Maximum Power @ 1kHz = 1W.
- THD @ 1kHz < 1%.
- Bandwidth @ -3dB = 200Hz ~ 8kHz.

❖ Cable length

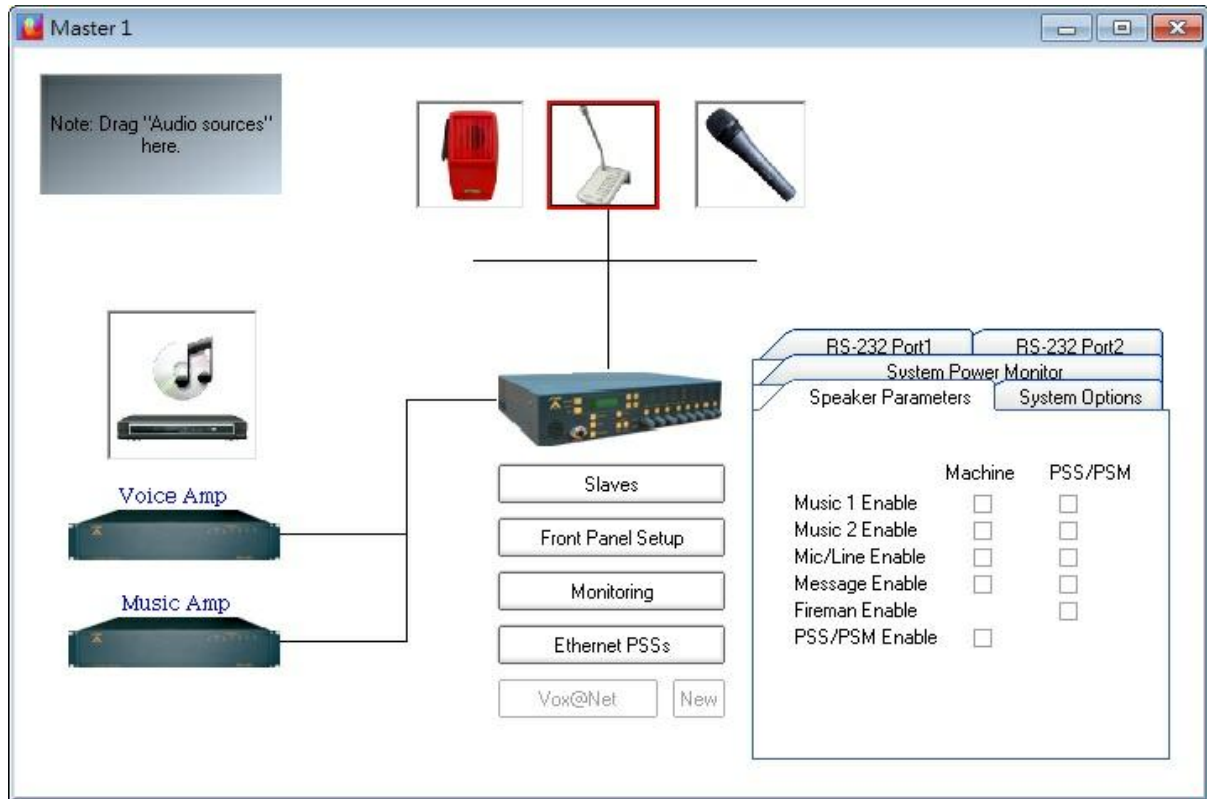
- 100m(control and power on the same cable)
- 900m(when power line connects to junction box).

❖ Comes standard with Junction box (JB) and CAT5 cable (1.5)

4.2.2.5 Configuration

As described briefly in the [External Device - PSM](#) chapter, The PSM8 is a 10 keys call station on which 8 are programmable with microphone, integrated loudspeaker and buzzer. It can be used with either IDA4(X)(M)(s) or DIVA8M. It is possible to add up to 11 extensions to the PSM8 increasing programmable keys number to 96. In order to use a PSM microphone with DIVA, simply drag and drop the PSM microphone from the [Design Component Section](#) to the master window.

The PSM microphone can also be cascaded, and you can slave up to 10 PSMs.



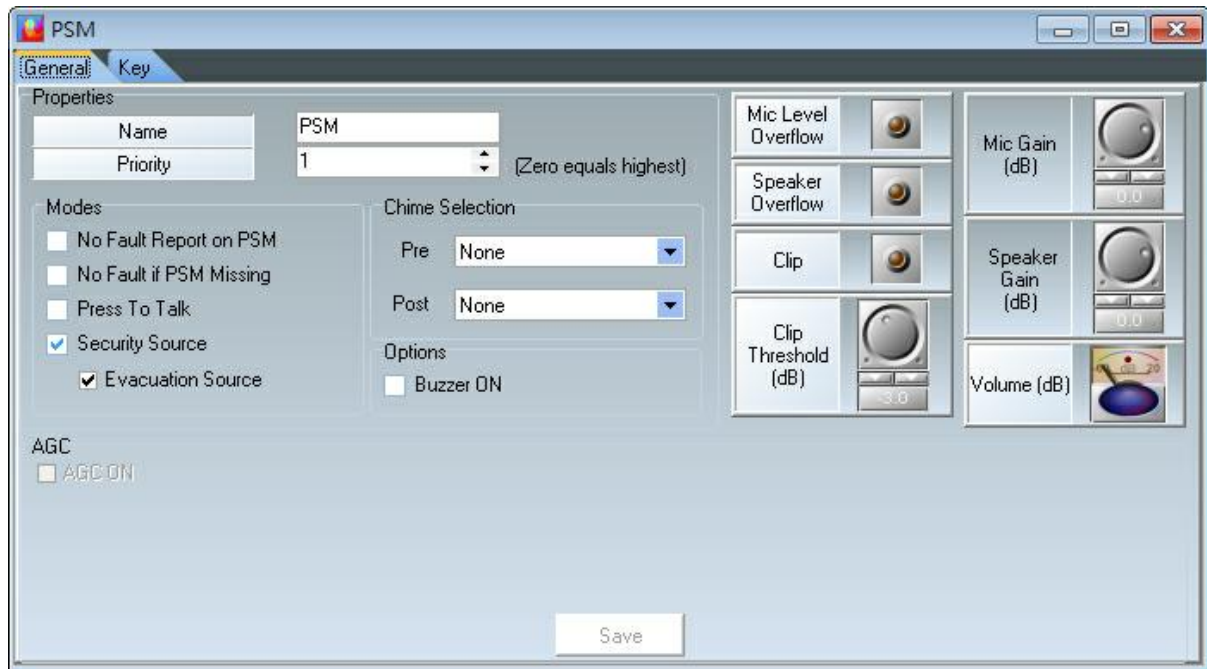
To access the PSM programming window, simply double-click on the PSM icon.

For more information about PSM microphone and its use, please read the PSM user manual that can be found on the [Ateis-Europe website](#).

❖ General Page

Here is a list of parameters that can be adjusted in the General tab:

- Properties Section:
 - Name: here you can set a name for your PSM
 - Priority: here you can set the PSM priority. Take care when choosing a priority as the PSM could be a security microphone as well as a evacuation source.



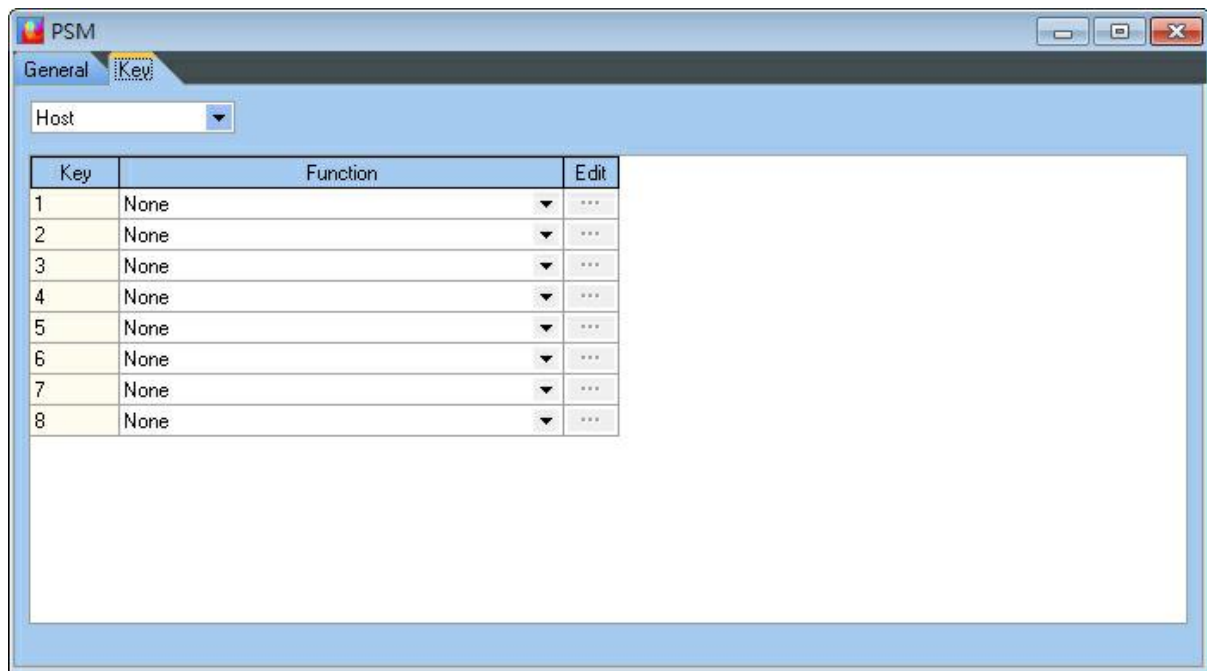
- Mode:
 - **No Fault Report on PSM:** If ticked, no DIVA fault status will be shown on the PSM fault LED.
 - **No Fault If Missing:** If ticked, DIVA won't display a fault if the PSM is not physically connected.
 - **Press To Talk:** This option change the behaviour of the Mic key on the PSM screen from "Lock to Talk" to "Push to Talk". For calling in "Push to Talk" mode, you have to keep the PSM Mic key press as long as you want to talk.
 - **Security source/Evacuation source:** If ticked, you will be able to use the PSM microphone when DIVA has entered into the security mode. When ticked, it adds the option Evacuation Source. If evacuation source is selected, the paging from the PSM will act like an evacuation event. So the front panel EVAC LED will light up.
- Chime selection:
 - **Pre:** Allows the addition of a chime message at the beginning of a microphone call. Simply choose the prechime message from the drop down menu.
 - **Post:** Allows the addition of a chime message at the end of a microphone call. Simply choose the post-chime message from the drop down menu.
- Options:
 - **Buzzer ON:** This option allows user to enable the PSM buzzer. It will beep for any DIVA fault status and for PSM internal fault.
- Monitoring:
 - **Pre Amp:** Virtual LED that will light up in case of PSM microphone pre amplifier failure.
 - **SPK Cable:** Virtual LED that will light up in case of PSM integrated loudspeaker connection

failure.

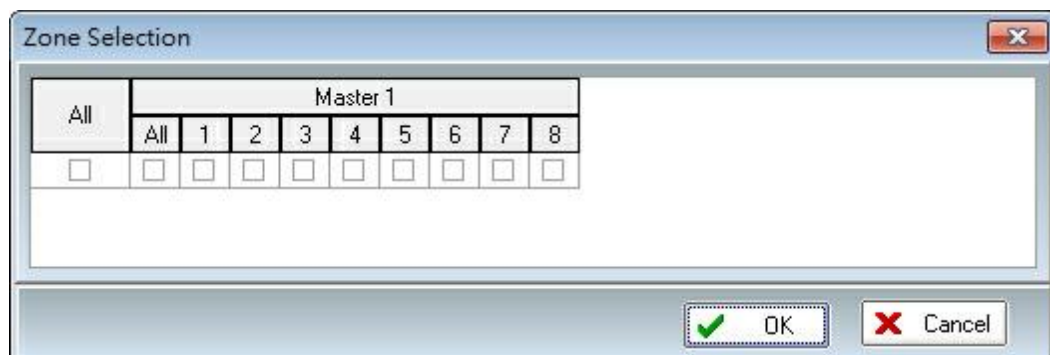
- **MIC:** Virtual LED that will light up in case of microphone capsule issue.
- **MIC Out:** Virtual LED that check the state of the microphone output.
- **Keyboard:** Virtual LED that light up in case of touchpad issue.
- **MIC Cable:** Virtual LED that will light up in case of microphone cable issue.
- **Missing:** Virtual LED that light up if the PSM is not plug into DIVA.
- Controls and Indicators:
 - **Mic gain (dB):** When connected to DIVA, you can adjust, real time mode, the gain of the PSM microphone.
 - **Speaker gain (dB):** When connected to DIVA, you can adjust, real time mode, the gain of the PSM internal speaker.
 - **Volume (dB):** Indicates the current output level of the music source.
 - **Clip Threshold (dB):** Allows the setting of the threshold point for the Clip indicator.
 - **Mic Overflow:** This is a LED indicator that light up when a too high level is detected on the PSM microphone.
 - **Speaker Overflow:** This is a LED indicator that light up when a too high level is detected on the PSM speaker.
 - **Clip:** Indicates when the signal is clipping.

❖ Keys Page

The key tab offers the possibility to program the eight first keys of the PSM (Host) and the keys of several PSM extension/keypad (keypad 1 to 11). In order to go through the different extension, use the main drop-down menu.



- In order to create a key, follow the next few steps:
 - With the drop-down menu corresponding to the key you want to set, select a key type (some keys type will automatically open a popup window for parameters setting). see below for the complete list of key functions
 - Edit your key settings by clicking on the Edit button.
- Here is a list of the key functions that can be used with the PSM:
 - Zone Selection:
- The zone selection key allows user to arrange to his will the selection of the zone. As soon as the zone selection type has been selected, the zone selection window will appear. Simply tick the zone corresponding to your needs and click OK.



- Route:

The Route key act like the one on the front panel, it has to be used to validate the routing of a music source in some zones.

- Music Source Selection:

When creating a music source selection key, you will have to specify the corresponding music source with the help of the music source selection window.



- Music Level + / Music Level -:

The Music Level + and - need to be associated with a music source. The selection of the music source is made with the music source selection window.

Note: Music Level + and Music Level - are two distinct keys.



- Event Start / Event Stop

Those two keys are an additional way of starting and stopping events that are not selected in the message section. You can start and stop any kind of event. Please be careful to the fact that you will need a stop event key for each start event key for play message type of event.

When creating an Event Start/Stop key, you will have to select in the existing event list the one to associate to the key.



- Push-To-Talk Microphone Call

The Push-To-Talk Microphone Call key allows to change the behaviour of the microphone call. The default behaviour for the microphone (Mic Key) is the locked to talk. In order to make a microphone call, you will have to keep the key pressed during the entire speaking process.

- Push-To-Talk Chime Call

The Push-To-Talk Chime Call key has to be used like the Push-To-Talk Microphone Call. The difference is that for each call, a pre-chime message will be played.

4.2.3 PSSG2

4.2.3.1 Overview



The PSSG2, CD-TOUCH paging microphone console is a man-machine interface which allows paging call, messages broadcasting and DSP matrix parameter control. DIVA8G2T can handle one PSSG2, CD-TOUCH unit connected to a secured bus. Its back-lit touch screen is designed for simple and user-friendly operating.

Various operating levels with password protection make the PSSG2, CD-TOUCH a versatile device that fits well in a commercial shopping center as for an industrial high security environment.

All paging parameters needed for site operating can be programmed: zones assigned to the different buttons, name of zones, group of zones, messages triggering, levels adjustments and pre-call chime but also for fader control, button control or event control.

A total of twelve keys on fourteen pages allow zone or group of zones selections. Each key contains a color changing field indicating that the zone is occupied by a different process.

❖ The PSSG2-E is made of:

- 5" TFT full color touch-screen.
- 3 LED indicators: Power/General Fault/Evacuation active.
- 3 key-buttons: User definable using Ateis Studio GUI.

- 168 Touch fields: 14 pages with 12 keys , for PSSG2, PSSG2-E.
- 16 Touch fields for PSSG2, PSSG2-E.
- Jack audio input/Output.
- Telephone input.

4.2.3.2 Control Panel



A Microphone:

A 280mm flex microphone.

B Power LED:

This LED light up when the PSSG2 is powered on.

C Fault LED:

To display fault status of system, permanently lit if a fault state in the VACIE system has been engaged.

D EVAC LED:

Light up when system is under evacuation paging, permanently lit if a evacuation state in the VACIE system has been engaged.

E Left Button:

No function for the moment.

F Middle Button:

No function for the moment.

G Right Button:

Press and hold it for a while to calibrate touch screen.

H Monitoring Speaker:

This embedded speaker to play chime when paging or monitor signal from audio processor, it needs to work with rs485 output component to get audio signal from other DSP components in audio processor.

I Touch Screen:

A back-lit touch screen with 5" diagonal and 800 x 480 resolution contains 14 pages, 12 keys for each pages can freely config to paging or adjustment parameters in audio processor.

4.2.3.3 Rear Panel**A Jack Audio Input:**

External microphone 1/8 inch jack output.

B Jack Audio Output:

External loudspeaker 1/8 inch jack input.

C Telephone Input:

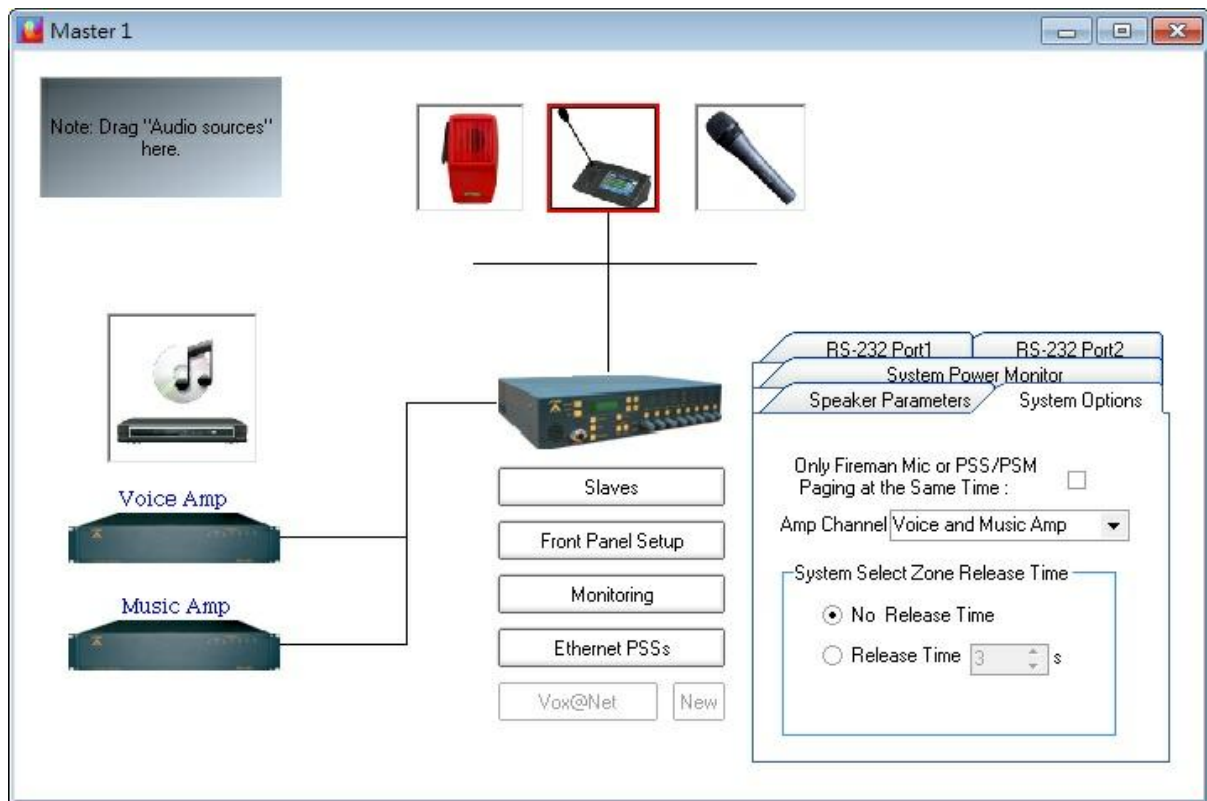
Allows the connection of a telephone type microphone.

D Power Input:

24VDC power supply.

4.2.3.4 Configuration

PSSG2 microphone is an advance touchscreen paging microphone. The PSS keys can be set by the user using the PSS window in DIVA software. In order to use a PSSG2 microphone with DIVA, simply drag and drop the PSS microphone from the [Design Component Section](#) to the master window.



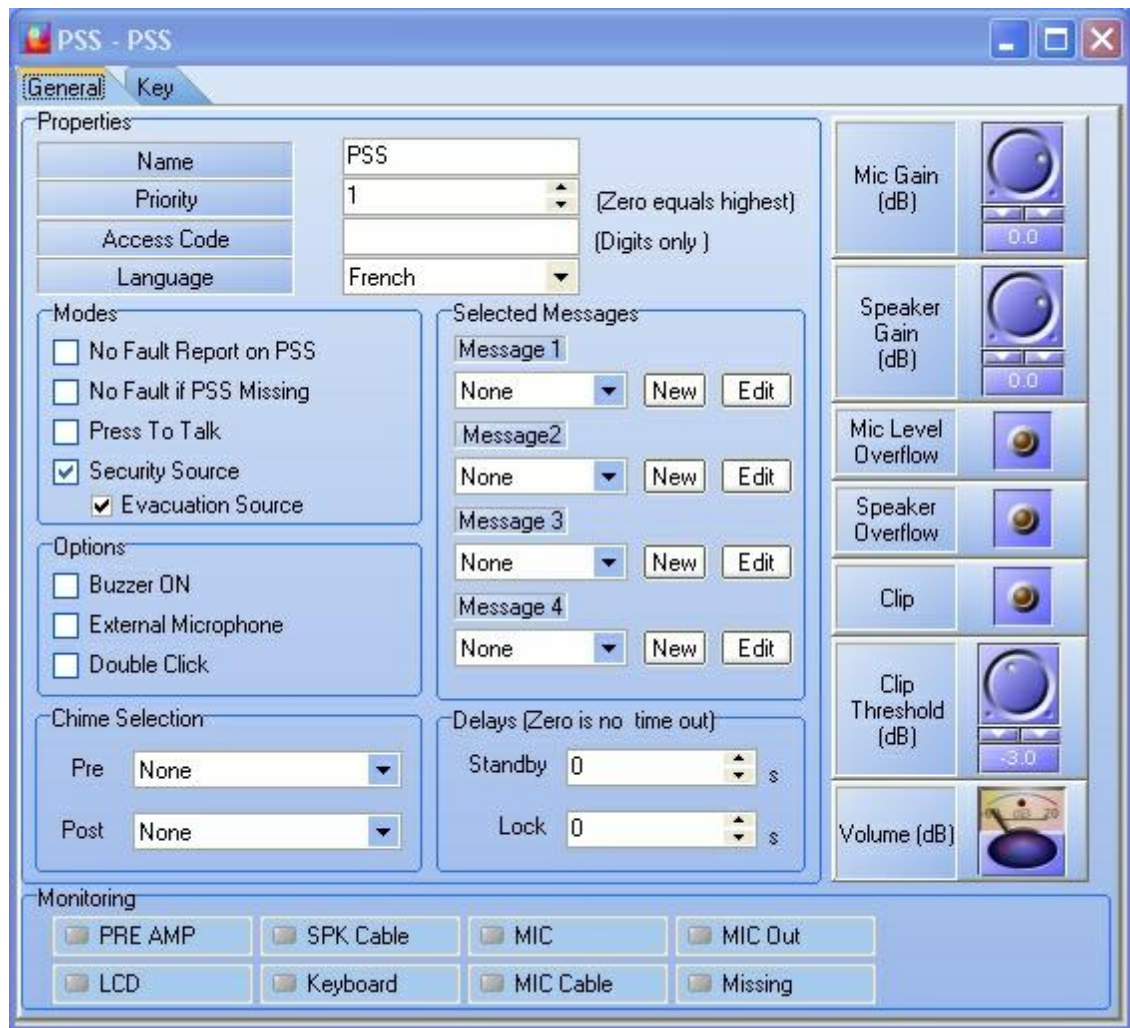
To access the PSS window simply double click on the PSS icon on the master page. In the PSS window, you will find two different tabs, one for property settings (General) and one for Keys configuration (Key).

Note: PSSg1 and PSSg2 offer the same setting possibilities, in the next chapters, PSS name will be used for both microphone. For further information on how to use PSS microphones, please read the PSS microphone manuals that can be found on the [Ateis Europe website](#).

❖ General Page

Here is a list of what are the accessible parameters in the General tab:

- Properties Section:
 - **Name:** Here you can set a name for your PSS.
 - **Priority:** Here you can set the PSS priority. Take care when choosing a priority as the PSS could be a security microphone as well as a evacuation source.
 - **Access Code:** You can specify an access code, only number, in order to be able to use the PSS screen.
 - **Language:** Allows user to set the PSS screen language between French, English, Russian, Romanian, Polish and German.



- Mode:

- **No Fault Report on PSS:** If ticked, the PSS won't display faults of the DIVA system.
- **No Fault If Missing:** If ticked, DIVA won't display a fault if the PSS is not physically connected.
- **Press To Talk:** This option change the behaviour of the Mic key on the PSS screen from "Lock to Talk" to "Push to Talk". For calling in "Push to Talk" mode, you have to keep the PSS Mic key press as long as you want to talk.
- **Security source/Evacuation source:** If ticked, you will be able to use the PSS microphone when DIVA has entered the security mode. When ticked, it adds the option Evacuation Source. If evacuation source is selected, the paging from the PSS will act like an evacuation event. So the front panel EVAC LED will light up.

- Options:

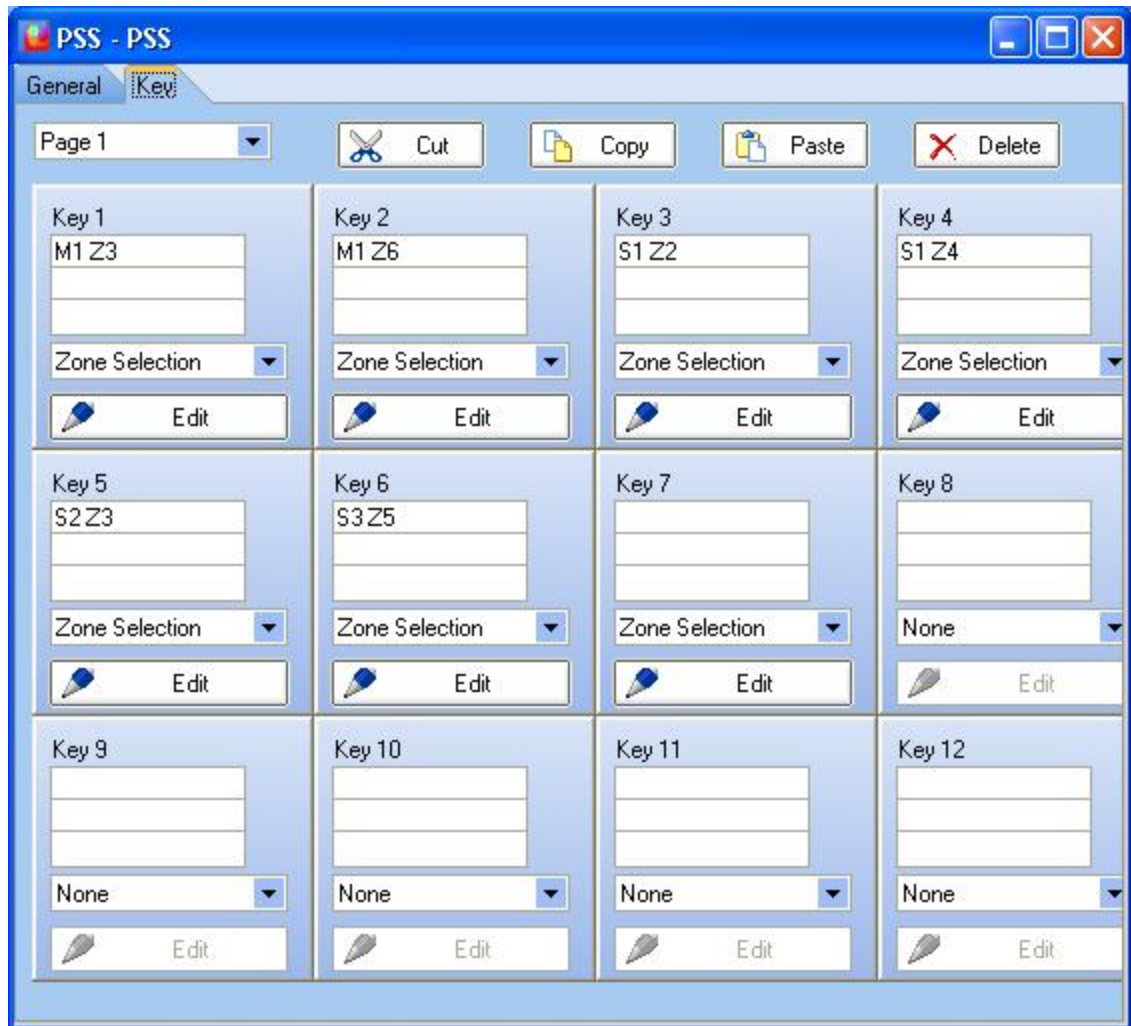
- **Buzzer On:** This options allows user to enable the PSS buzzer. It will beep for any DIVA fault status and for PSS internal fault.
- **External Microphone:** In case of using an other microphone that the gooseneck you will

have to tick this option.

- **Double Click:** If ticked, to activate a PSS key you will need to press it twice.
- Chime selection:
 - **Pre:** Allows to add a chime message at the beginning of a microphone call. Simply choose the pre-chime message from the drop down menu.
 - **Post:** Allows to add a chime message at the end of a microphone call. Simply choose the post-chime message from the drop down menu.
- Selected Messages:
 - **Message 1 to Message 4:** With the use of the drop down menu you can add to the PSS up to 4 event buttons that will launch the corresponding selected events. This option is restricted for message type event. The play message event can be reached using the MSGs key on the PSS.
- Monitoring:
 - **Pre Amp:** Virtual LED that will light up in case of PSS microphone pre amplifier failure.
 - **SPK Cable:** Virtual LED that will light up in case of PSS integrated loudspeaker connection failure.
 - **MIC:** Virtual LED that will light up in case of microphone capsule issue.
 - **MIC Out:** Virtual LED that check the state of the microphone output.
 - **LCD:** Virtual LED that indicates any LCD screen fault.
 - **Keyboard:** Virtual LED that light up in case of touchpad issue.
 - **MIC Cable:** Virtual LED that will light up in case of microphone cable issue.
 - **Missing:** Virtual LED that light up if the PSS is not plug into DIVA.
- Controls and Indicators:
 - **Mic gain (dB):** When connected to DIVA, you can adjust, real time mode, the gain of the PSS microphone.
 - **Speaker gain (dB):** When connected to DIVA, you can adjust, real time mode, the gain of the PSS internal speaker.
 - **Volume (dB):** Indicates the current output level of the music source.
 - **Clip Threshold (dB):** Allows to set the threshold point for the Clip indicator.
 - **Mic Overflow:** This is a LED indicators that light up when a too high level is detected on the PSS microphone.
 - **Speaker Overflow:** This is a LED indicators that light up when a too high level is detected on the PSS speaker.
 - **Clip:** Indicates when the signal is clipping.

❖ Keys Page

The Key page is where you will define keys for the PSS and their associated action. Depending on the PSS model, you can specify up to 96 keys so 96 actions.

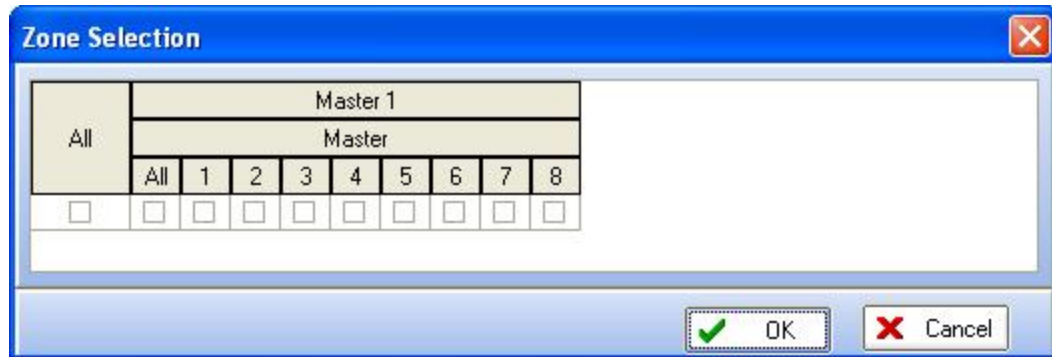


It's important to notice that you can only visualize 12 key at the same time. To see up to 96 keys, you have to jump to pages with the drop-down menu at the upper left corner. You also can cut, copy, paste and delete keys with the upper corresponding button.

- In order to create a key, follow the next few steps:
 - In the three square, enter a key label (3x 6 digits).
 - With the drop-down menu, select a key type (some keys type will automatically open a popup window for parameters setting), see below for the complete list ok key functions.
 - Edit your key settings by clicking on the Edit button.
- Key functions:
 - Zone Selection:

The zone selection key allows user to arrange to his will the selection of the zone. As soon as the zone selection type has been selected, the zone selection window will appear.

Simply tick the zone corresponding to your needs and click OK.



- Route:

The Route key act like the one on the front panel, it has to be used to validate the routage of a music source in some zones.

- Music Source Selection:

When creating a music source selection key, you will have to specify the corresponding music source with the help of the musicis source selection window.



- Music Level + / Music Level - :

The Music Level + and - need to be associated with a music source. The selection of the music source is made with the music source selection window.

Note: Music Level + and Music Level - are two distinct keys.



- Speaker Level + / Speaker Level - :

The Speaker Level keys act on the PSS internal speaker. You can adapt PSS speaker level to your desire.

Note: Speaker Level + and Speaker Level - are two distinct keys.

- Event Start / Event Stop

Those two keys are an additional way of starting and stoping events that are not selected in the message section. You can start and stop any kind of event. Keep in mind that each

event started by a Event Start key need a Event stop key.

When creating an Event Start/Stop key, you will have to select in the existing event list the one to associate to the key.



- Push-To-Talk Microphone Call:

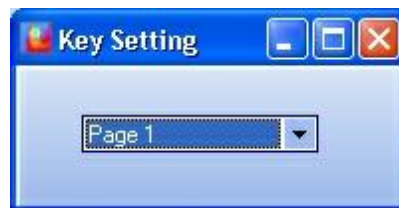
The Push-To-Talk Microphone Call key allows to change the behaviour of the microphone call. The default behaviour for the microphone (Mic Key) is the locked to talk. In order to make a microphone call, you will have to keep the key pressed during the entire speaking process.

- Push-To-Talk Chime Call:

The Push-To-Talk Chime Call key has to be used like the Push-To-Talk Microphone Call. The difference is that for each call, a pre-chime message will be played.

- Jump To Page:

When using a PSSXXDT that has over 12 keys, it will be needed to create key that allows to jump from page to page. As soon as you select the Jump To Page type of key, a page selection window will pops up, please select the page where you want to jump.



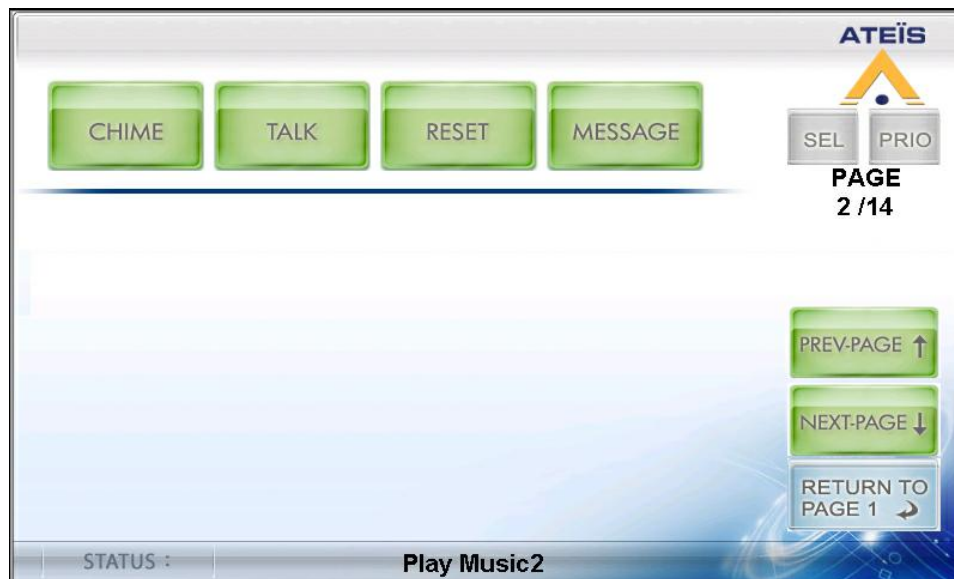
4.2.3.5 Touch Screen

As the PSSG2, CD-TOUCH can be connected to different VACIE system like IDA4, IDA8 and DIVA8, keys configuration and possibilities depend on the VACIE system used.

In order to know all the configuration possibilities, please read IDA4, IDA8 and DIVA8 user manuals.

However, the PSSG2, CD-TOUCH has common keys that are by default displayed in green and several on screen indicators.

The following picture shows the common control keys and indicators.



❖ Control Keys:

- CHIME: if the PSS has been set to use a pre-chime and/or post chime, one have to press this key to start a call with chime.
- TALK: engages the call. The press to talk mode or lock to talk is configuration and system dependant. For CD-Touch microphone the call is engaged when the fist microphone contact is closed.
- RESET: instantaneously resets the active zone selection.
- MESSAGE: allows the access to the message start page.
- PREV-PAGE: allows the display of the previous page in the configuration.
- NEXT-PAGE: allows the display of the next page in the configuration.
- CONFIG: allows the access to the PSSG2, CD-TOUCH hardware configuration page.

❖ Indicators:

- SEL: lights up when a zone is selected (active selection).
- PRIO: Lights up when a zone key is selected in which a higher priority broadcasting is happening. This indicator informs the user that the occurring call will be cut/not started.
- PAGE: indicates the currently displayed page number.
- STATUS: displays in plain text the actions, faults, evacuation occurring in the system, see picture below.



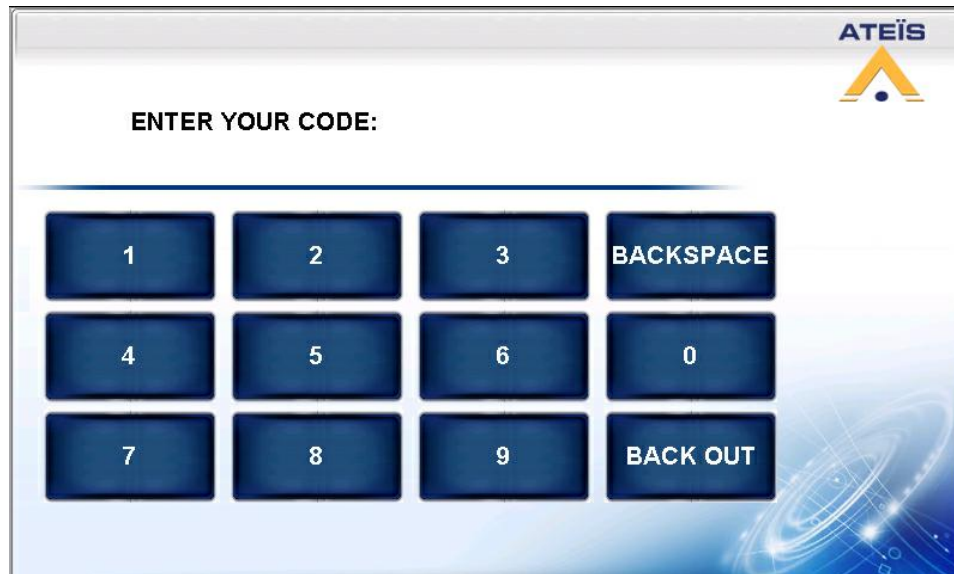
4.2.3.5.1 Configuration

The PSSG2, CD-TOUCH offers the possibility to adjust hardware settings and audio parameters through a dedicated configuration page.

The configuration page is password protected. The password is 0117 and cannot be changed.

In order to access the configuration page, please follow the next steps:

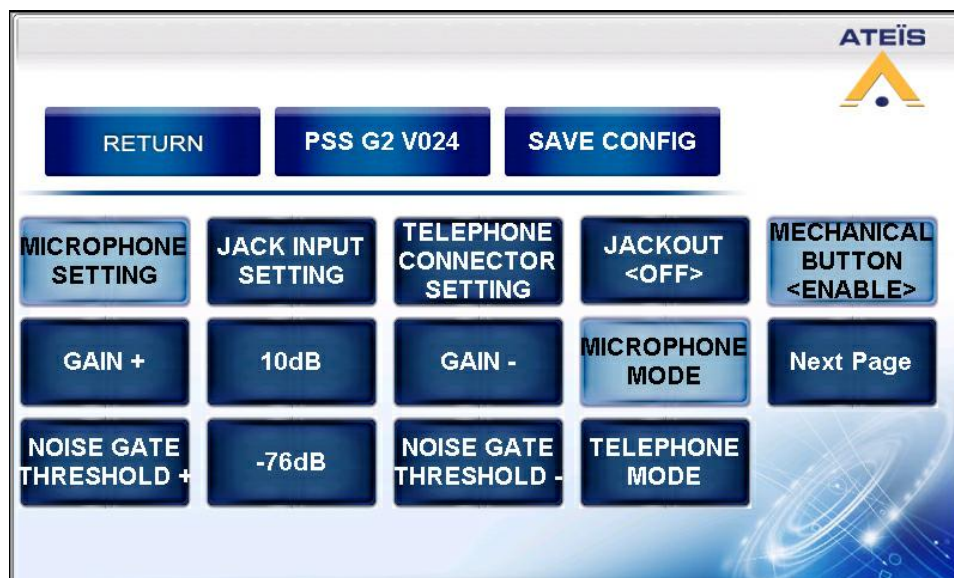
- Click on the CONFIG key
- Enter the configuration access code with the keyboard, see below.



- Once the correct code is entered, you will be automatically redirected to the configuration page.
- To delete on digit, press on the BACKSPACE key.
- To exit the access code window, press the BACK OUT key.

4.2.3.5.2 General Options

In the configuration page, several general options are available, see the next picture of the complete configuration page.



- RETURN: exit the configuration page.
- PSS G2 V014: displays the firmware version of the PSSG2, CD-TOUCH.
- SAVE CONFIG: once pressed, the on screen configuration will permanently saved in the PSSG2, CD-TOUCH.
- Pressing the JACKOUT key allows user to activate or deactivate the PSSG2, CD-TOUCH jack output. Not available on CD-Touch.
- The three hardware buttons can be enabled or disabled by pressing the MECHANICAL BUTTON key.
- As briefly stated before, the PSSG2, CD-TOUCH security microphone consol can work with older system like IDA4 matrixes. In that particular case, the PSSG2, CD-TOUCH should use a different protocol (PSSG1). This key allows the activation of either the PSSG2, CD-TOUCH protocol or the PSSG1 protocol.

4.2.3.5.3 Audio Input and Output settings

The PSSG2, CD-TOUCH configuration window offers different settings for the PSSG2 audio input and audio output.

The different audio input modes are:

- Microphone input.
- Jack Input.
- Telephone mode through the telephone connector.

❖ Microphone Input settings:

- The PSSG2, CD-TOUCH offers two different microphone audio settings: microphone gain and noise gate threshold, see below:



- The microphone gain can be adjusted using the GAIN + and GAIN – keys. The current gain

setting is displayed in dB between the two gain adjustment keys, see picture below.



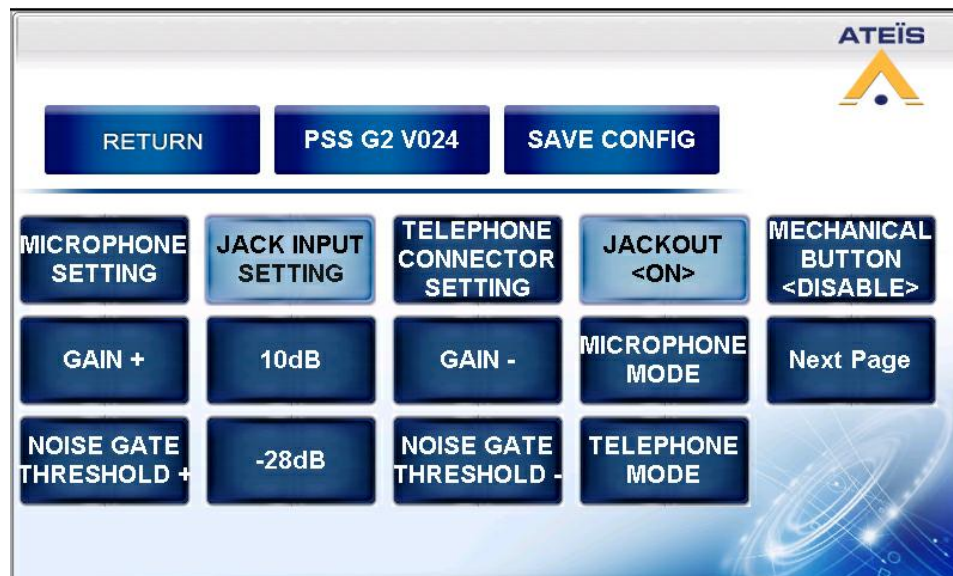
- The noise gate threshold setting is handy to avoid feedback and adjusting the speaking distance. The gate threshold can be adjusted via the NOISE GATE THRESHOLD + and NOISE GATE THRESHOLD – keys. The current gate threshold is displayed in dB between the two threshold adjustment keys.



- Increasing the threshold will reduce the speaking distance but will help to avoid feedback as well as background noise picking.
- Decreasing the threshold will make the microphone more sensible to feedback and will increase speaking distance.

❖ Jack Input: (Not available on CD-Touch)

- The jack input is automatically activated or deactivate as soon as a jack connector is inserted. The following settings are available for the jack input.



- The jack input gain can be adjusted using the GAIN + and GAIN – keys. The current gain setting is displayed in dB between the two gain adjustment keys, see picture below.



- The noise gate threshold setting is handy to avoid feedback and adjusting the speaking distance. The gate threshold can be adjusted via the NOISE GATE THRESHOLD + and NOISE GATE THRESHOLD – keys. The current gate threshold is displayed in dB between the two threshold adjustment keys.

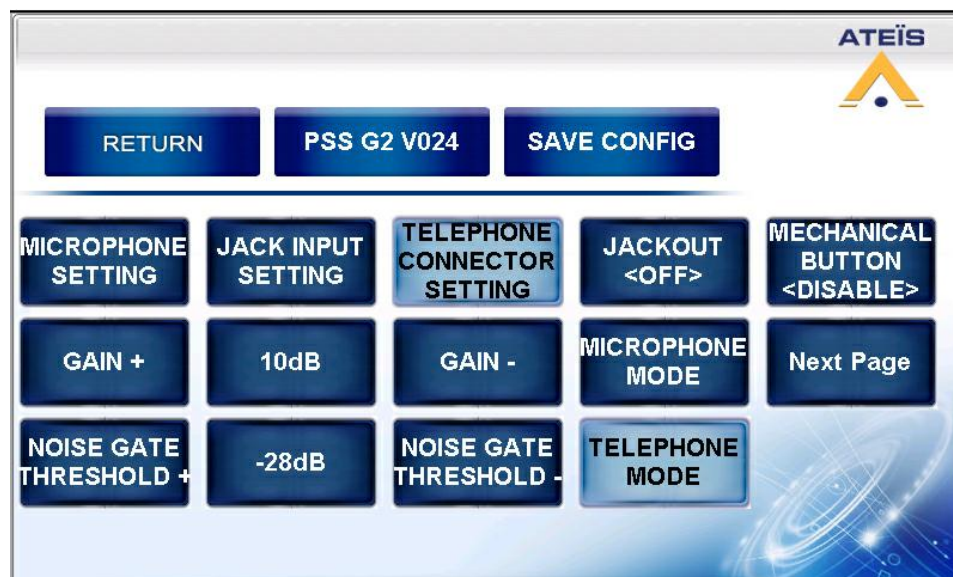


- Increasing the threshold will reduce the speaking distance but will help to avoid feedback as well as background noise picking.
- Decreasing the threshold will make the microphone more sensible to feedback and will increase speaking distance.

❖ Telephone mode: (Not available on CD-Touch)

The telephone mode is manually activated via the TELEPHONE MODE key, in order to avoid any fault on the VACIE system, make sure a telephone handset is connected before activating the telephone mode.

In telephone mode, the following audio settings are available.



The telephone audio input gain can be adjusted using the GAIN + and GAIN – keys. The current gain setting is displayed in dB between the two gain adjustment keys, see picture below.



The noise gate threshold setting is handy to avoid feedback and adjusting the speaking distance. The gate threshold can be adjusted via the NOISE GATE THRESHOLD + and NOISE GATE THRESHOLD – keys. The current gate threshold is displayed in dB between the two threshold adjustment keys.



Increasing the threshold will reduce the speaking distance but will help to avoid feedback as well as background noise picking.

Decreasing the threshold will make the microphone more sensible to feedback and will increase speaking distance.

4.2.3.5.4 Screen Calibration

The PSSG2, CD-TOUCH give the user the possibility to calibrate the screen. In order to do so, follow the next steps.

- Press on the Hardware button 3.
- The PSSG2, CD-TOUCH reboot
- After rebooting, you will be asked to touch the screen in the center of the ring, see below.
- First on top left of the screen.



- The on bottom right of the screen.

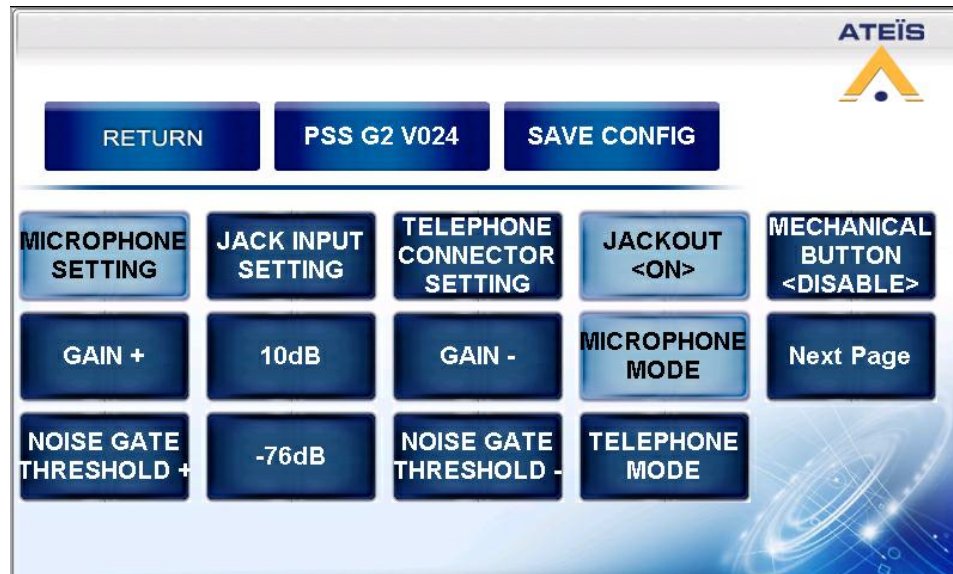


- This will end the calibration process. The main configuration page will be automatically displayed.

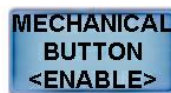
4.2.3.5.5 Mechanical Buttons

In the PSSG2, CD-TOUCH configuration page, you have the possibility to enable or disable the three mechanical buttons. In order to do so, follow the next steps.

- Access the config page.



- Press on the MECHANICAL BUTTON key. The key work as a toggle button between ENABLE and DISABLE states, see picture below. The current status is displayed right under the key's name.



4.2.3.5.6 Working with the VACIE System

As stated previously, the key configurations and possibilities depend on the VACIE system connected to the PSSG2, CD-TOUCH. However some operations are common to all system.

Note: all selection keys are highlighted in light blue when active.

❖ Busy zone indication

When a system zone is occupied by an audio broadcasting, the corresponding PSSG2, CD-TOUCH zone key is signalized as busy.

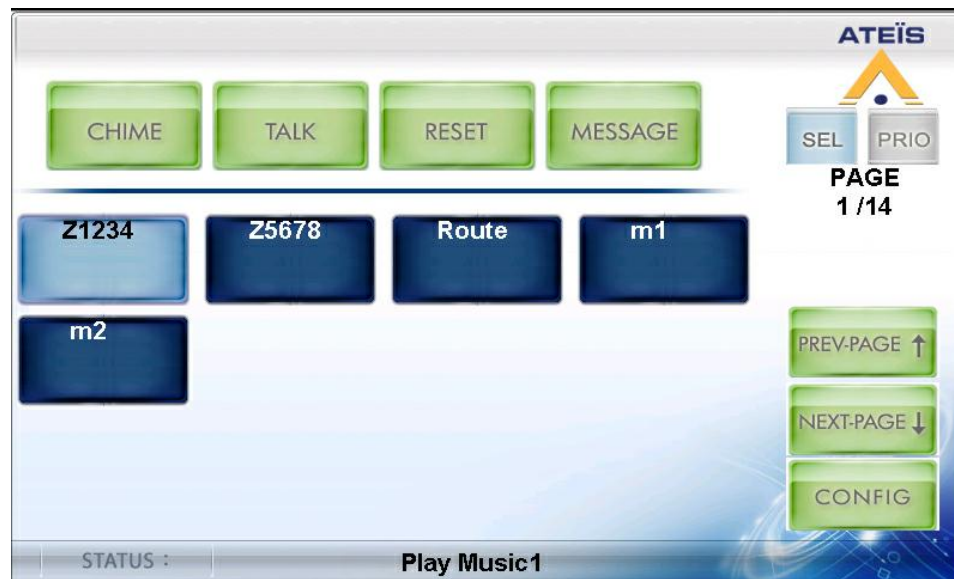
The busy indication is displayed in plain text within the key itself.

❖ Starting a microphone call

In order to start a call in a zone or group of zone, follow the next steps.

Start a call without chime:

- Press on the zone(s) key



- Press the TALK key (Close fist microphone contact for CD-16)
- The TALK key will be red highlighted to indicate that the call is active.



- In Press To Talk Mode: press and keep your finger on the TALK key. (CD-Touch: keep the contact closed)
 - In Lock To Talk Mode: press once on the TALK key. (CD-Touch: apply one contact closure)
- To stop the call:
 - In Press To Talk Mode: release your finger from the TALK key. (CD-Touch: release the contact)
 - In Lock To Talk Mode: press once on the TALK key. (CD-Touch: apply one contact closure)

Start a call with a pre-chime or post chime:

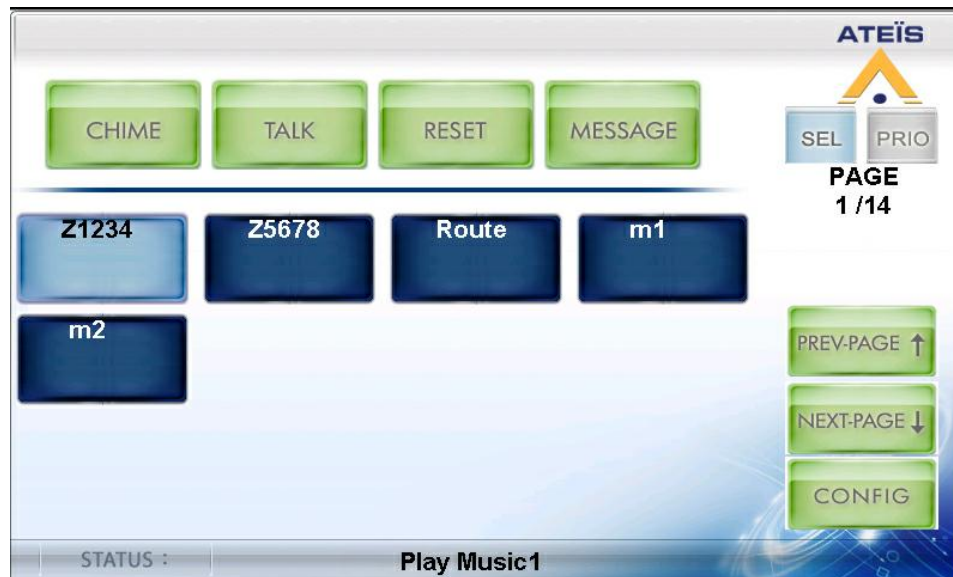
- Press on the zone(s) key
- Press the CHIME key. The chime key will be blinking during the chime broadcasting. The Microphone key will be automatically activated after the chime broadcasting.
 - In Press To Talk Mode: press and keep your finger on the CHIME key. (CD-Touch: keep the contact closed)
 - In Lock To Talk Mode: press once on the CHIME key. (CD-Touch: apply one contact closure)
- The TALK key will be red highlighted to indicate that the call is active.
- To stop the key:

- In Press To Talk Mode: release your finger from the CHIME key. (CD-Touch: release the contact)
- In Lock To Talk Mode: press once on the CHIME or TALK key. (CD-Touch: apply one contact closure)

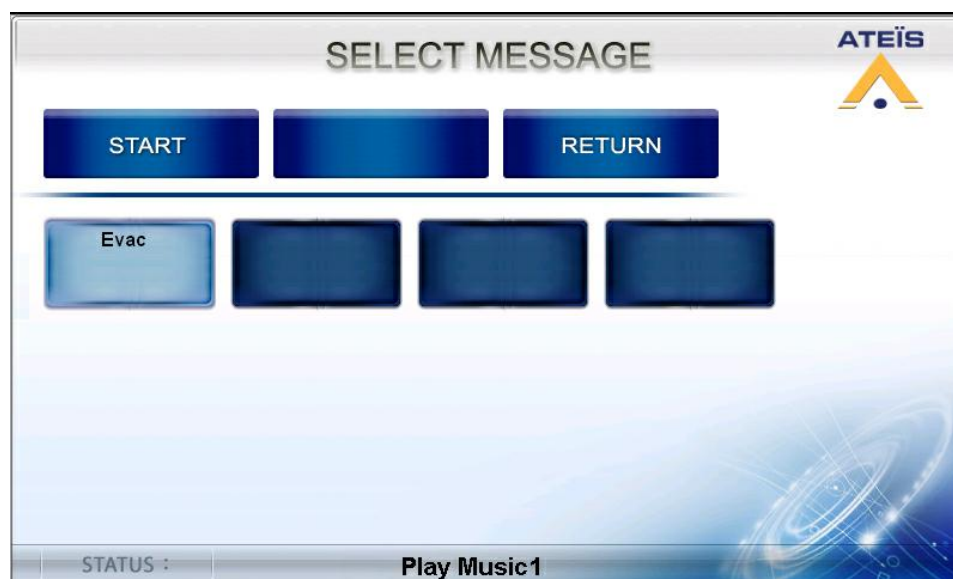
❖ Starting a message

The number of messages available depends on the VACIE system connected to the PSSG2, CD TOUCH microphone. However, the way to start a message is identical.

- Press on the zone(s) key in which you want to start the message



- Press on the MESSAGE Key
- The Message page is displayed, see below.



- Select the message you want to start by pressing the corresponding key.

- Press the START key.
- The message is now broadcasted in the selected zone(s).
- To stop the message broadcasting, press on the STOP key. The START and STOP key are displayed on the same location. The START or STOP messages are displayed in a toggle manner depending the status of the message broadcasting.
- To return to the PSSG2, CD-TOUCH main page, press the RETURN Key.

❖ Scrolling through pages

The PSSG2, CD-TOUCH allows the quick navigation between different pages in the configuration.

Depending the VACIE system connected to, a jump to page key can be implemented in the configuration.

- To go on the previous page in the configuration, press the PREV_PAGE key.
- To go on the next page in the configuration, press the NEXT_PAGE key.

The current page number can be seen under the PAGE indicator.

❖ Adjusting the talking distance

The PSSG2, CD-TOUCH offers an indicator that help keeping the microphone speaking distance correct, see below.



During a call, a square cursor is displayed below the ((OK)) indicator. The middle position indicates a good speaking distance when a left position indicates a too far speaking distance and a right position a too close speaking distance.

❖ Monitoring speaker

The audio that is routed to the PSSG2, CD-TOUCH monitoring speaker depends on the VACIE configuration. Please refer to the VACIE user manual to learn more about how to route audio on the PSSG2, CD-TOUCH speaker.

The monitoring speaker level can be adjusted through the VACIE configuration software.

4.2.4 PSSG2-E

4.2.4.1 Overview



The PSSG2-E TCP/IP Touch paging microphone console is a man-machine interface which allows IP paging call, messages broadcasting and DSP matrix parameter control. The Ethernet connector on the back panel provides the connection to an Ethernet network. Its back-lit touch screen is designed for simple and user-friendly operating.

Various operating levels with password protection make the PSSG2-E a versatile device that fits well in a commercial shopping center as for an industrial high security environment.

All paging parameters needed for site operating can be programmed: zones assigned to the different buttons, name of zones, group of zones, messages triggering, levels adjustments and pre-call chime.

A total of twelve keys on fourteen pages allow zone or group of zones selections. Each key contains a color changing field indicating that the zone is occupied by a different process.

❖ The PSSG2-E is made of:

- 5" TFT full color touch-screen.
- 3 LED indicators: Power/General Fault/Evacuation active.
- 3 key-buttons: User definable using Ateis Studio GUI.

- 168 Touch fields: 14 pages with 12 keys , for PSSG2, PSSG2-E.
- 16 Touch fields for PSSG2, PSSG2-E.
- Jack audio input/Output.
- Telephone input.
- Ethernet Connector.

4.2.4.2 Control Panel



A Microphone:

A 280mm flex microphone.

B Power LED:

This LED light up when the PSSG2 is powered on.

C Fault LED:

To display fault status of system, permanently lit if a fault state in the VACIE system has been engaged.

D EVAC LED:

Light up when system is under evacuation paging, permanently lit if a evacuation state in the VACIE system has been engaged.

E Left Button:

No function for the moment.

F Middle Button:

No function for the moment.

G Right Button:

Press and hold it for a while to calibrate touch screen.

H Monitoring Speaker:

This embedded speaker to play chime when paging or monitor signal from audio processor, it needs to work with rs485 output component to get audio signal from other DSP components in audio processor.

I Touch Screen:

A back-lit touch screen with 5" diagonal and 800 x 480 resolution contains 14 pages, 12 keys for each pages can freely config to paging or adjustment parameters in audio processor.

4.2.4.3 Rear/Side Panel**A Jack Audio Input:**

External microphone 1/8 inch jack output.

B Jack Audio Output:

External loudspeaker 1/8 inch jack input.

C Telephone Input:

Allows the connection of a telephone type microphone.

D Power Input:

24VDC power supply.

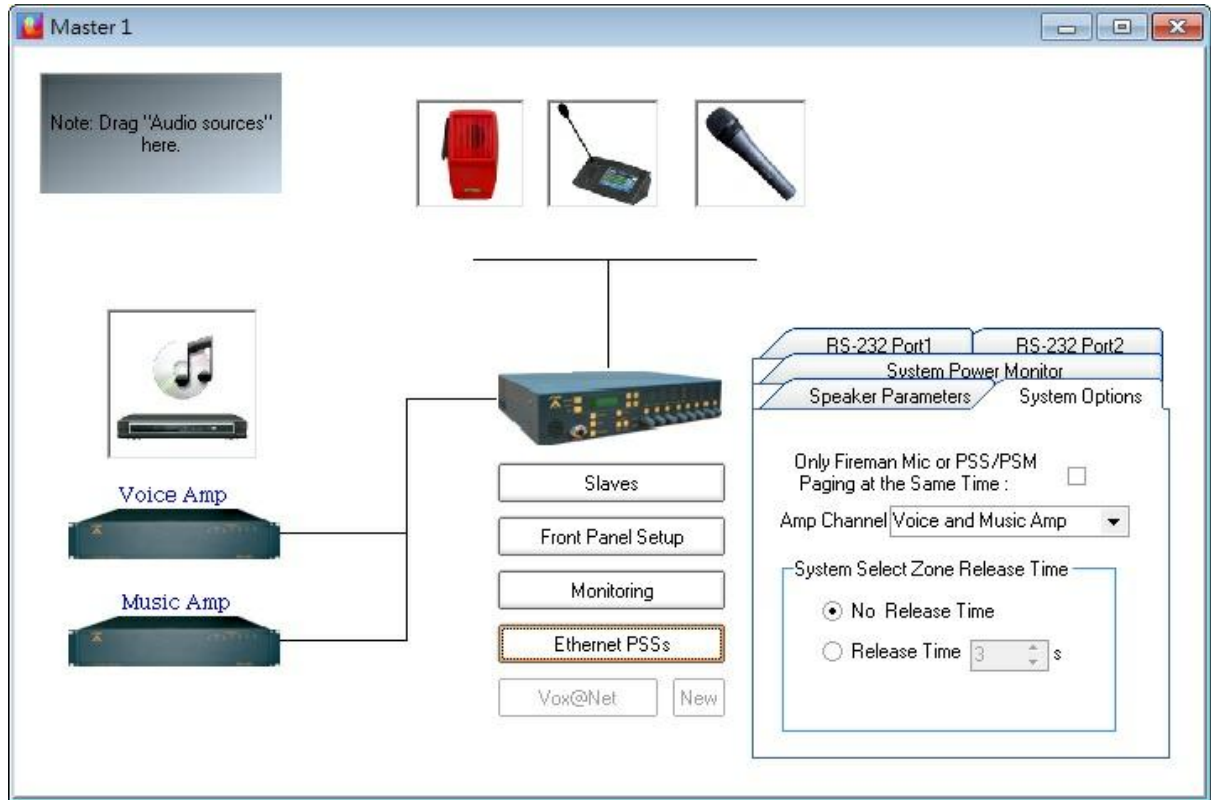
E Ethernet Connector:

RJ-45 Connector to link to the ethernet network.

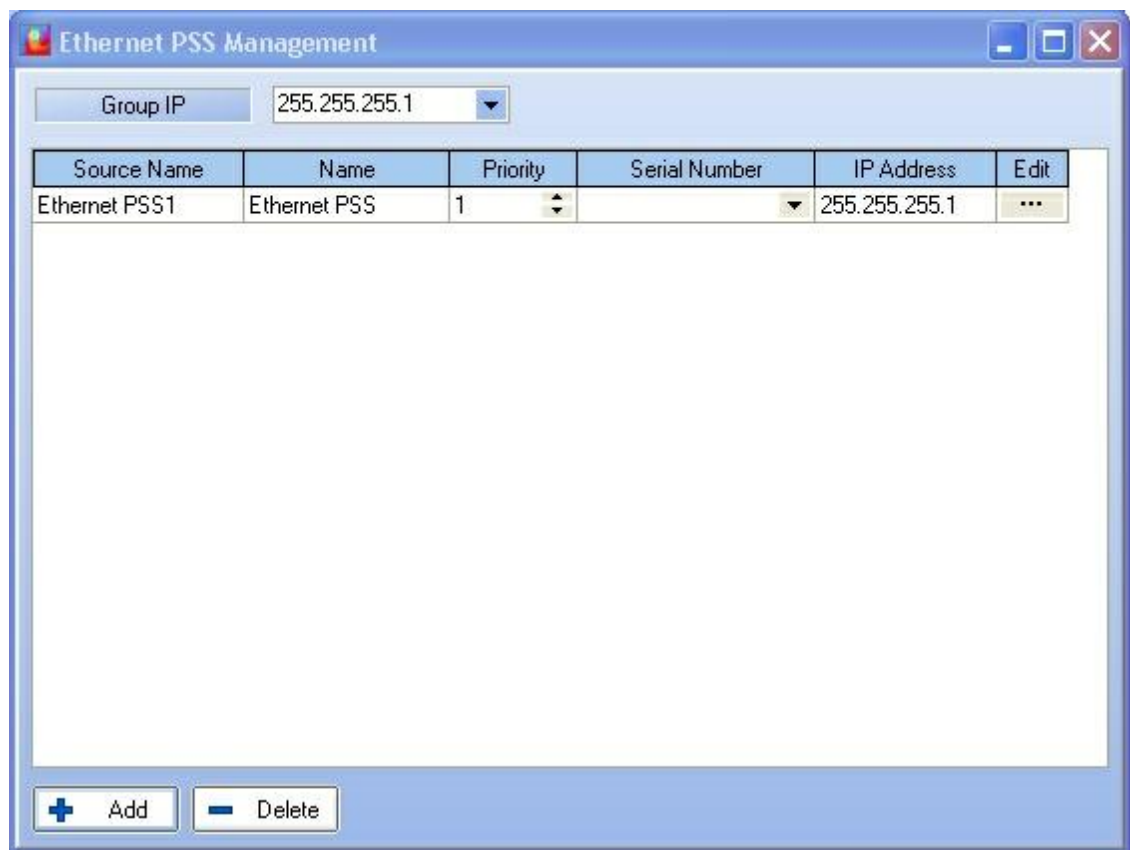
4.2.4.4 Configuration

In order to use and configure the PSSG2-E, one has to create the TCP/IP link between the DIVA and the PSS microphone console. In order to do so, follow the next steps.

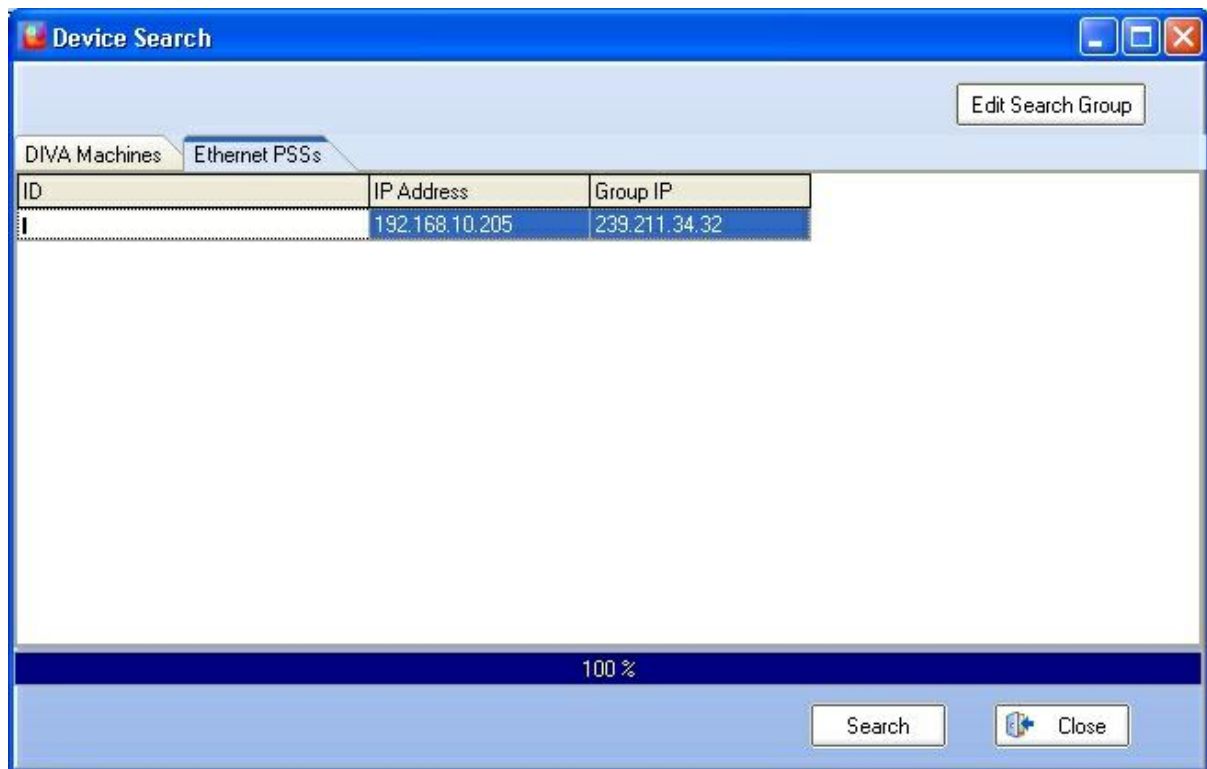
- On the Master window, click on the Ethernet PSS button.



- Add a PSSG2-E to the system by clicking the "Add" button.



- As for any TCP/IP based product, one have to search for it on the network. To do so, go in the menu: Tools -> Device Search -> Ethernet PSS tab.
- Click on the "Search" button.
- Once the search process ends, it should display all Ethernet PSS on the network. If for some reason, no Ethernet PSS is found, please enter the searched TCP/IP address range by clicking on the "Edit Search Group" button.



- When the Ethernet PSS has been found, return to the "Ethernet PSS management" window, see below.
- With the "Serial Number" drop-down menu, choose the corresponding PSSG2-E serial number.
- The IP address should be automatically filled.
- You have the possibility to change the name of the console by entering a new name in the name cell.
- Select the Group IP for the Ethernet PSS using the drop-down menu.
- Set the microphone console priority with the arrow keys.



To configure the Keys, click on the "3 dots" button under Edit column. As the PSSG2 and PSSG2-E uses exactly the same configuration options, please refer to the [PSSG2 chapter](#).

4.2.5 CD16

4.2.5.1 Overview

CD13 is a Wall-mount heavy duty remote paging console with Access level 2 protection to comply with the EN 54-16. Compatible with DIVA8 System and communicates over a dedicated RS485 for Power, audio and DATA.



The unit comprises of 16 zones / 16 buttons with fist firemen's microphone in a metal surface mount wall-box. It provides robust IP-30 protection. Each CD-16,CD-8 contains a PSM-Master PCB with extension keypad and uses the same architecture as for the PSM-series of microphone consoles.

Each DIVA8 System can handle up to 32 CD-16,CD-8 . CD-8 is limited to eight programmable keys.

The buttons can represent a single zone or a group of zones. All buttons can be programmed with drag & drop features from the DIVA8 System can be programmed for Push To Talk or for latching functionality.

The unit offers "Hold" and "Busy" LED signals in addition to the zone LED's, and these allow the easy identification of selection / Busy signals for the user. In addition, to comply with EN 54-16, separate POWER, FAULT and EVAC indicators are provided.

The RS485 communication protocol offers daisy chaining of up to 300 m on a simple CAT5 cable, and yet makes outlets easy to connect via a standard RJ45 connector.

❖ The CD 16 is made of:

- 16 buttons / Music button 1&2 plus separate PTT button. 8 buttons for CD-8.
- Fireman fist microphone with PTT (CB-type).
- Feedback speaker.
- 2 stereo RCA entries with selection buttons.
- 3 LED indicators: Power/General Fault/Evacuation active.
- Voltage: 24 VDC (Provided by DIVA8 System).
- Dimensions: 334x247x134 mm.
- Color: RAL 7016.

❖ Linking

The CD-16,CD-8 uses RS485 protocol over shielded CAT5 to transport data from the microphone to the VACIE.

The theoretical maximum distance for RS485 is 1000 meters. However, as the CD-16,CD-8 is powered via the VACIE system a maximum of 200 meters is recommended without the use of an external power supply.

The CD-16,CD-8 microphone is supplied with a 10 to 8 pins CAT5 cable converter.

When using an external power supply, make sure that the Junction Box power switch is set to EXT. PWR. and the MASTER-SLAVE switch to the MASTER position.

CD-16,CD-8 on DIVA8, see [this](#).

4.2.5.2 Front/Rear Panel

❖ Front Panel



A Monitoring Speaker:

VACIE audio streams monitoring loudspeaker.

B General Status LED:

- POWER LED: Indicates the power status of the CD-16,CD-8.
- FAULT LED: Indicates the presence of a fault on the system the CD-16,CD-8 is linked to.
- EVAC LED: Indicates the presence of a evacuation state on the system the CD-16,CD-8 is linked to.

C Zone and Selection LED:

- BUSY LED: Indicates the zone busy state.
- HOLD LED: Indicates zone selection key active state.

D Configurable button:

Depending on which VACIE system the CD-16,CD-8 is connected to, the programmable key could offer a big variety of function. Reading the VACIE user manuals will let you know all the possibilities offered (IDA4, IDA8 and DIVA8).

E Fireman Microphone Input:

Allows the connection of the SHM1 microphone.

F Talk LED:

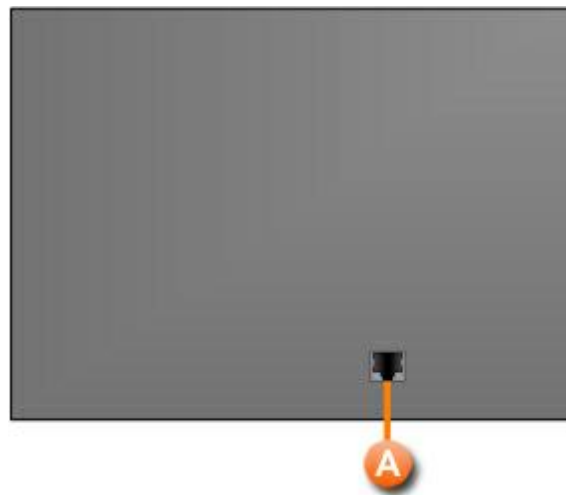
Indicates when a call is active. Blinks during chime.

G LED test button:

All LEDs blink when the button is pressed.

H All Call/Release Button:

Allows instantaneously the selection or release of all zone keys.

❖ Rear Panel

A RJ45 Connector: CD-16,CD-8 output to VACIE. This connection is made through shielded CAT5 cable.

4.2.5.3 Characteristics

❖ Case

Dimension = 350mm (W) x 250mm (H) x 130mm (D).

Weight = 4.7Kg.

Color = RAL7035.

❖ Power

Item	Voltage	Current Consumption	Comment
DC Input	18V~26V, Typical 24V	150mA	

❖ Microphone Output

- Maximum level = 6dBu.
- Output Impedance = 100Ohm.
- THD @ 1kHz < 0.1%.
- Bandwidth @ -3dB = 200Hz ~ 20kHz.

❖ Front Panel Speaker

- Impedance = 8Ohm.
- Maximum Power @ 1kHz = 1W.
- THD @ 1kHz < 1%.
- Bandwidth @ -3dB = 200Hz ~ 20kHz.

❖ Cable length

100m(control and power on the same cable)

900m(when power line connects to junction box).

❖ Comes standard with Junction box (JB) and CAT5 cable (1.5)

4.2.5.4 LED Indicators

The CD-16,CD-8 microphone console offers general VACIE (Voice alarm control and indicating equipment) indicators LED as well as configurable button status LED.

❖ General system indicators

The CD-16,CD-8 has three different main LED indicators to show different status of the CD-16,CD-8 and VACIE system: Power, Fault and Evac states.

In order to check for the LEDs condition, every 35 seconds both Fault and Evac blinked once.

- **Power LED:** Indicates the presence of power on the CD-16,CD-8.
- **Fault LED:** The fault LED is permanently lit if a fault state in the VACIE system has been engaged.
- **Evac LED:** The Evac LED is permanently lit if a evacuation state in the VACIE system has been engaged.

❖ Configurable key status LED

As briefly introduced before, the key configuration of the CD-16,CD-8 depends on the VACIE system used with it. Please refer to VACIE user manuals to learn more about all the configuration possibilities offered.

However, independently from the VACIE system, when zone selection key are programmed, the two zone status LED act as follow:

- **BUSY LED:** Indicates the presence an audio event on the corresponding zone or group of zone.
- **HOLD LED:** The HOLD LED indicates the user that the zone is still in an active selection state. When lit, all next call or music routing will be routed to that zone. Note: Before making any call or any music routing, make sure that the HOLD LEDs reflect the desired zones selection.

❖ TALK and ALL CALL/RELEASE LEDs

The CD-16,CD-8 call is activated by the first microphone switch. The talk LED will reflect the status of the call.

- **ALL CALL/RELEASE LED:** Will be lit when a all call zone selection is active or when all individual zone keys have been selected. Will be OFF when the button is used for the release of an all call selection.
- **TALK LED:** Will be lit when the user can speak in the microphone and blinking during the broadcasting of a pre or post chime.

4.2.5.5 Troubleshooting Guide

The CD-16,CD-8 microphone is constantly monitored through the VACIE system. Fault indication and messages could vary depending on the VACIE system. For more information about CD-16,CD-8 fault, please read IDA4, IDA8 and DIVA8 user manuals.

❖ CD-16,CD-8 can't boot

- Make sure the CAT5 cable is correctly connected.
- Make sure the CD-16,CD-8 power LED is lit.
- If no power or if the PSS still doesn't boot, please contact your ATEİS dealer.

❖ Noise in the speaker

If digital noise can be heard in the CD-16,CD-8 monitoring speaker:

- Verify that the CAT5 cable is from the correct type.
- Verify the CAT5 cable condition.
- If nothing helps, please contact your ATEİS dealer.

❖ CD-16,CD-8 is powered ON but the buttons don't work.

- Verify that the CD-16,CD-8 microphone console is activated in the VACIE software configuration.
- If nothing helps, please contact your ATEİS dealer.

❖ CD-16,CD-8 is connected to VACIE but there is a connection fault state

- Verify that the CD-16,CD-8 microphone console is activated in the VACIE software configuration.
- Verify the CAT5 cable condition.
- Make sure the CAT5 cable is correctly connected.
- If nothing helps, please contact your ATEİS dealer.

4.2.5.6 Configuration

The CD16 microphone is considered as a PSM microphone from a configuration point of view. Up to 10 CD16 microphones can be cascaded.

The CD16 offers Cinch connectors for music inputs. The CD16 music input should be configured as normal music sources in the DIVA software, please read [this](#) chapter.

The CD16 offers also independent music source selection buttons that, in addition with a configured route key, will make music routing as easy as on the front panel.

To learn how to configure CD16 general options and keys, please refer to the [PSM chapters](#).



4.3 Amplifier

4.3.1 SPA

4.3.1.1 Overview

The SPA (Security Power Amplifier) is designed for perfect integration into the SINAPS system, but thanks to its flexibility, it can also be used for any Public Address application.



SPA 2060



SPA 2120



SPA 2240

The SPA amplifiers were specifically developed to meet the requirements of EN 60849 for safety installations. Each amplifier module is fitted with its own 220 VAC/24 VDC power supply for increased system reliability. To avoid handling errors, the volume output is set using the potentiometer located at the back of the apparatus. In addition to standard protection via fuses, SPA amplifiers also have electronic and thermal protection to protect them from all potential hazards.

A fan provides forced cooling for the final power shelves and internal parts of the apparatus. It starts up automatically when the temperature reaches a certain threshold, and stops when it returns to normal values.

Four LEDs display the status of each amplifier: AC or DC power supply, Line Overload and Temperature overload.

Furthermore, a three LEDs Vu-Meter indicates the presence and level of audio signal.

A surveillance circuit continuously monitors the temperature and the presence of AC and DC power supplies for both amplifiers. In case of a problem, the overload LEDs will be switched ON and the Fault relay will be activated.

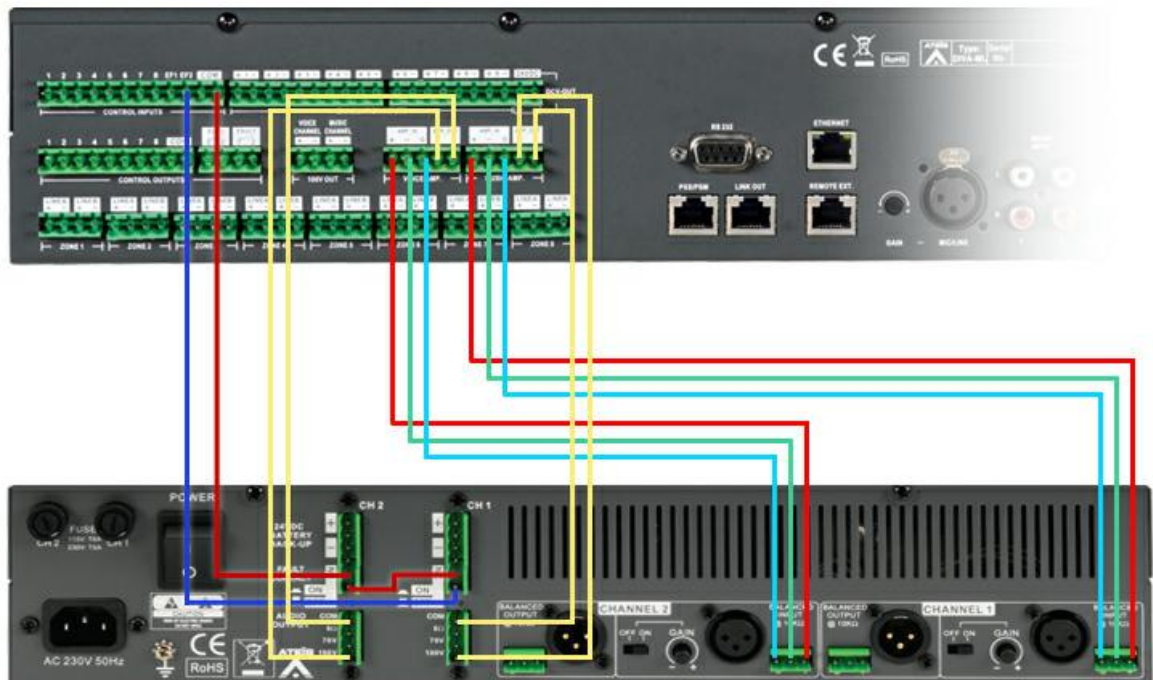
SPA series (SPA 2060, 2120, 2240) can be ordered with optional 115V power supply. Please contact your local dealer or your regional ATEiS branch office.

❖ Specifications

- Energy supply: 220 V-24 V
- Output power:
 - 2060 : 2 X 60W
 - 2120 : 2 X 120W
 - 2240 : 2 X 240W
- Output voltage: 8 Ω , 70 & 100 V
- Power indicate 24 V and 230 V: Yes
- Frequency respond: 60 -18000 Hz
- Distortion: < 1%
- Output: 4-8 Ω 70-100 V
- Fault contact(s): yes
- Signal indication: Yes

❖ Wiring examples

With DIVA8MG2:



4.3.1.2 Front Panel



A VU Meter:

The VU-meter is composed of three LEDs that represent three different level thresholds: -40dB, -20dB and 0dB. When the input signal reaches those thresholds, the corresponding LED will blink.

B Overload:

The overload LED will blink as soon as the output power exceeds the nominal value. If the Overload LED is blinking, check that the output load is well connected and still in good condition as well as checking the level of the input signal.

C Temp.:

If the device internal temperature exceeds 95 degrees C, the TEMP LED will light and the pre-amp will stop working until the temperature falls below 95 degrees C. The pre-amp will come back to a working state automatically. To avoid temperature failure, please insert an external fan to the rack system.

D DC:

The DC LED indicates that the SPA amplifier is powered by a 24VDC power supply.

E Power:

The Power LED indicates the ON/OFF status of the SPA amplifier.

4.3.1.3 Rear panel



A DC Fuse Receptacles:

Two DC fuse receptacles are located on the left of the amplifier's rear panel. To access each fuse, unscrew the cap with a screwdriver. For 115 V operations please use T2.5A fuses. For 230 V operations please use T1.25A fuses.

B Power Switch:

The power switch is located at the left of the rear panel and is a two position switch. Pushing up the power switch (I is pushed) will power on the device, pushing it down (O is pushed) will power it off. When the power switch is on the I position, the front panel power LED will be lit.

C Channel 1/2 24VDC battery backup connector:

The SPA amplifier can be operated with battery backup. Use the channel 1 and channel 2 "24VDC Battery Backup" connector to do so. These connectors are located on the upper part of the channel connectors on the rear panel.

This 24VDC power supply can be used where no AC power is available. When in use, the front panel Power LED will be lit as well as the front panel DC LED.

D AC Power Inlet:

The 3 pin IEC connector is located on the left of the amplifier's rear panel. It accepts a standard mains power lead fitted with an IEC connector.

For 115 V, fuse rating:

- SPA 2060: 2.5A
- SPA 2120: 5A
- SPA 2240: 8A

For 230 V, fuse rating:

- SPA 2060: 1.25A
- SPA 2120: 2.5A
- SPA 2240: 5A

E Channel 1/2 Audio Output:

For each amplifier channel, there is a dedicated Audio Output connector for connection of either 8 Ohm speakers, 75V speakers or 100V speakers. For the 8 Ohm connection and if you are using more than 1 speaker, please ensure that speakers are wired in a way that the total impedance load is between 8 Ohm and 16 Ohm. The Com point is the – terminal and 8 Ohm, 75V and 100V are the + terminals.

F Fault Contact:

The fault contact indicates an amplifier fault by an opening contact.

G Channel 1/2 Outputs:

Each channel outputs a replica of the corresponding balanced audio input signal either on XLR or on Euro-terminal block.

H Channel 1/2 Inputs:

For each channel, there is an XLR balanced input and a Euro-terminal block balanced input. Each input can be gain adjusted to suit the user's needs. The On/Off gain switch can instantaneously bypass the gain controller and set the channel gain amplifier to maximum.

4.3.1.4 Characteristics

❖ Case

- Dimension:
 - SPA2060, SPA2120 = 483mm (W) x 305mm(D) x 88mm(H)
 - SPA2240 = 483mm (W) x 420mm(D) x 88mm(H)
- Weight :
 - SPA2060 = 10.6 Kg
 - SPA2120 = 12.3 Kg
 - SPA2240 = 18.5 Kg
- Color = RAL7016.

❖ Power

Item	Voltage	Current Consumption	Comment
AC Input	230V +/- 10%	1.2A	Frequency: 47Hz~63Hz
DC Output	21~28V, Typical: 24V	1A	

❖ Audio

- Frequency response = 40 - 20 000 Hz
- Distortion at nominal power: < 1%
- Signal/noise ratio: > 90 dB

❖ Inputs/Outputs

- Power output = 100 V
- Main line input = 770 mV

- Input impedance = 20 KOhms

❖ Current consumption

		Current consumption with 28 VDC supply (per channel)				
		Standby	1/8 Nominal Power (Audi Messages)	1/4 Nominal Power (50% Message, 50% Siren)	1/2 Nominal Power Siren	Nominal Power
Power Consumption	SPA2060	0.19 A	1.5 A	1.8 A	2.75 A	3.2 A
	SPA2120	0.25 A	2.9 A	3.9 A	5.5 A	6.4 A
	SPA2240	0.30 A	5.47 A	7.5 A	10.4 A	12.3 A
	Current consumption with 230 AC supply (per channel)					
	SPA2060	0.07 A	0.32 A	0.42 A	0.53 A	0.67 A
	SPA2120	0.12 A	0.65 A	0.89 A	1.15 A	1.4 A
	SPA2240	0.28 A	1.25 A	1.65 A	2.20 A	2.85 A

❖ Working Temperature.

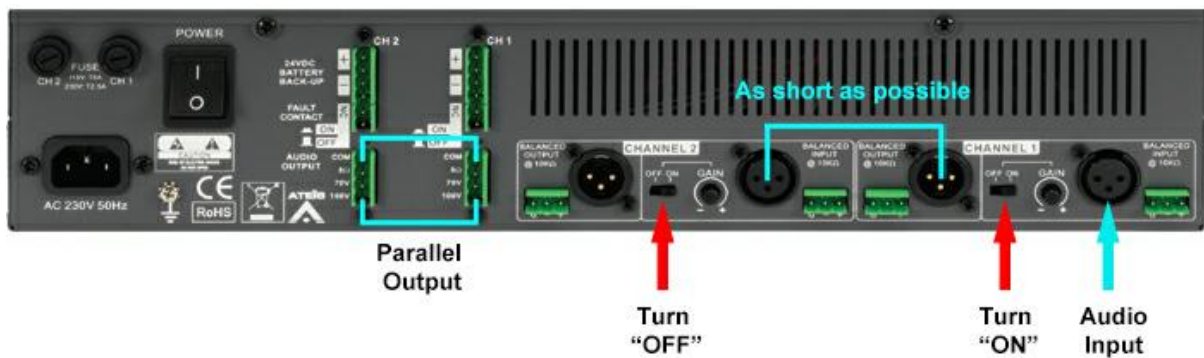
- 0°C ~ 40°C

4.3.1.5 Parallel Output

To combine 60W x 2 Channel to be 120W power, Simply do the following:

1. Turn the Input gain to "OFF" position on channel 2, but keep the channel 1 Input gain adjustable.
2. Connect channel 1 output to channel 2 Input.
3. Parallel the output of channel 1 and channel 2 (COM to COM, 70.7V line to 70.7V line).

Please refer the example connection below.

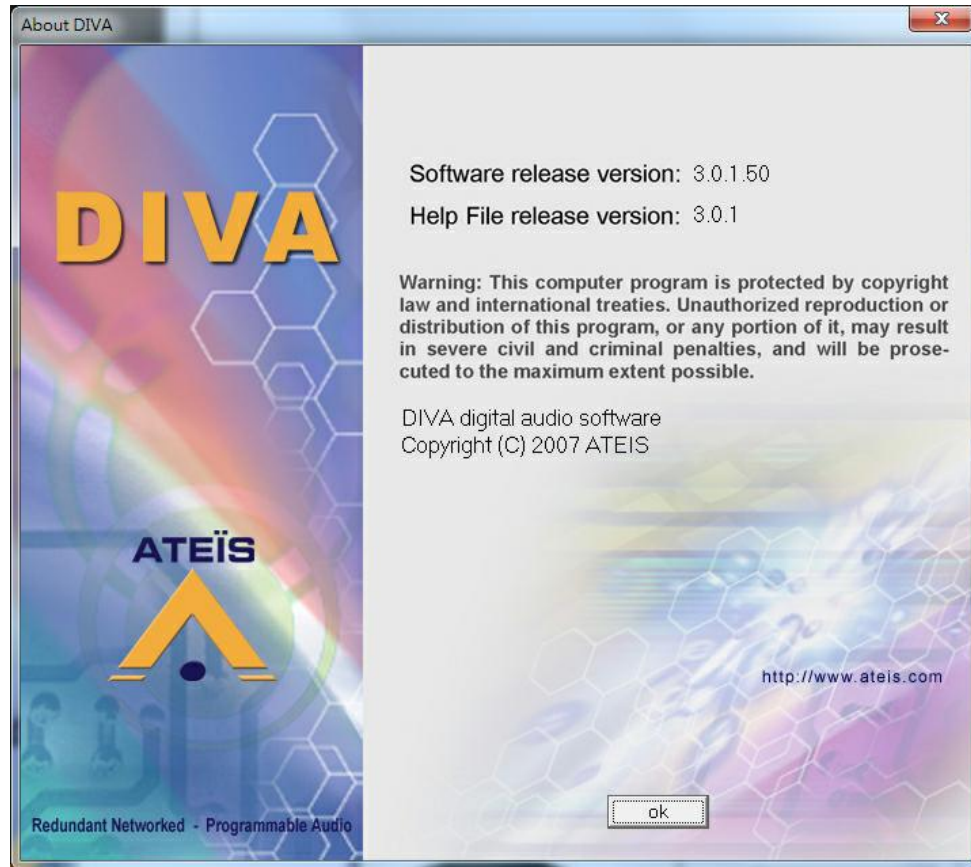


5 System Functionality

Enter topic text here.

5.1 DIVA Software

5.1.1 Overview



This DIVA software is only for use with the DIVA system.

It allows user to real-time control features like PEQs, filtering, level adjustment. But DIVA has also been defined to be a standalone device once configured.

The front panel offers controls like, zone selection, music routing, zone attenuator knob, message launching buttons and different indicators LED.

5.1.2 System Requirement

- DIVA Software runs on window XP, Vista and 7.
- We recommend at least 1GB RAM, 2GHz processor.
- Disk Space required is 100MB.

5.1.3 Install DIVA Software

As briefly mentioned in the Installation paragraph, DIVA8M package hold a CD-Rom. The CD contain the DIVA8M Quick Start Manual (.pdf), User Manual (MicrosoftR HTML Help Executable .chm, HTML .htm). and DIVA software.

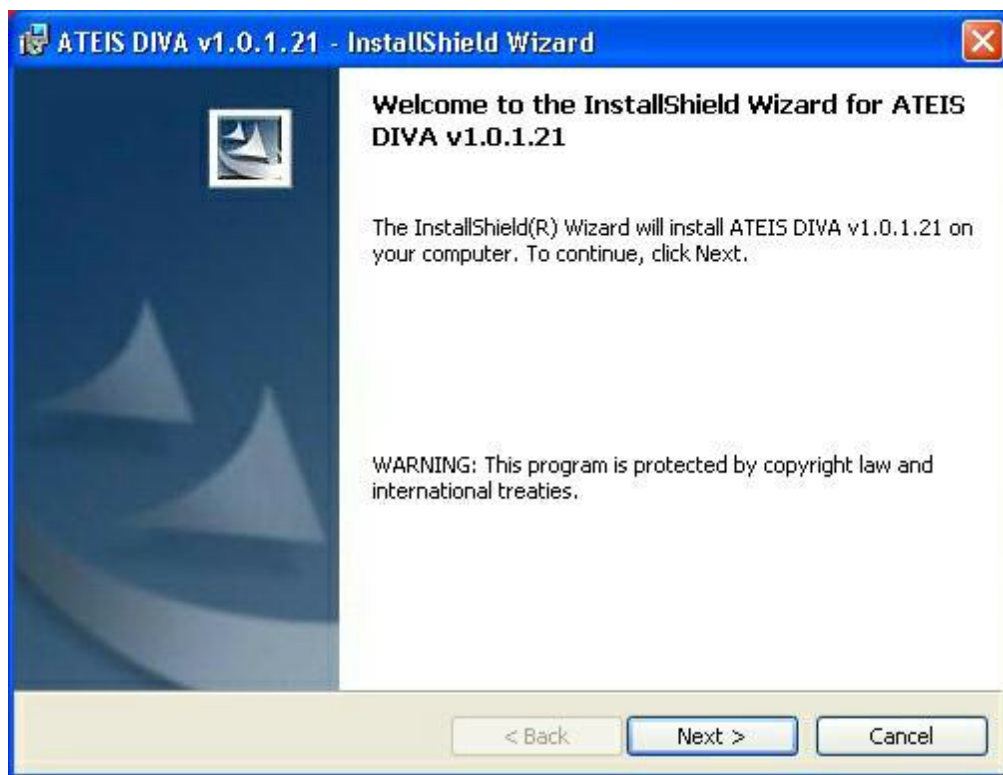
It could happen that the software on the CD-Rom is not the last release. In that case, please visit [ATEIS website](#) to download the latest release and follow the steps described in the Software Installation Process.

❖ Installation Process

Here's the example of install DIVA Software v1.0.1.21:

1. Insert the CD-Rom in your computer.
2. Double Click on the "My Computer" on the desktop. Open the CD-ROM submenu.
3. Double Click on the DIVA software icon  ATEIS DIVA v1.0.0

The DIVA InstallShield Wizard will prompt. Please follow the install instruction that are displayed.



4. Change the User Name and the Organization's name at your convenience.

The screenshot shows the 'Customer Information' window of the ATEIS DIVA v1.0.1.21 - InstallShield Wizard. The window has a blue title bar and a standard Windows XP-style interface. The main area is light beige. At the top, it says 'Customer Information' and 'Please enter your information.' Below this, there are two text input fields: 'User Name:' with 'Ateis International' entered, and 'Organization:' with 'Ateis' entered. Further down, there is a section 'Install this application for:' with two radio button options: 'Anyone who uses this computer (all users)' (which is selected) and 'Only for me (Ateis International)'. At the bottom, there is a status bar with the 'InstallShield' logo and three buttons: '< Back', 'Next >', and 'Cancel'.

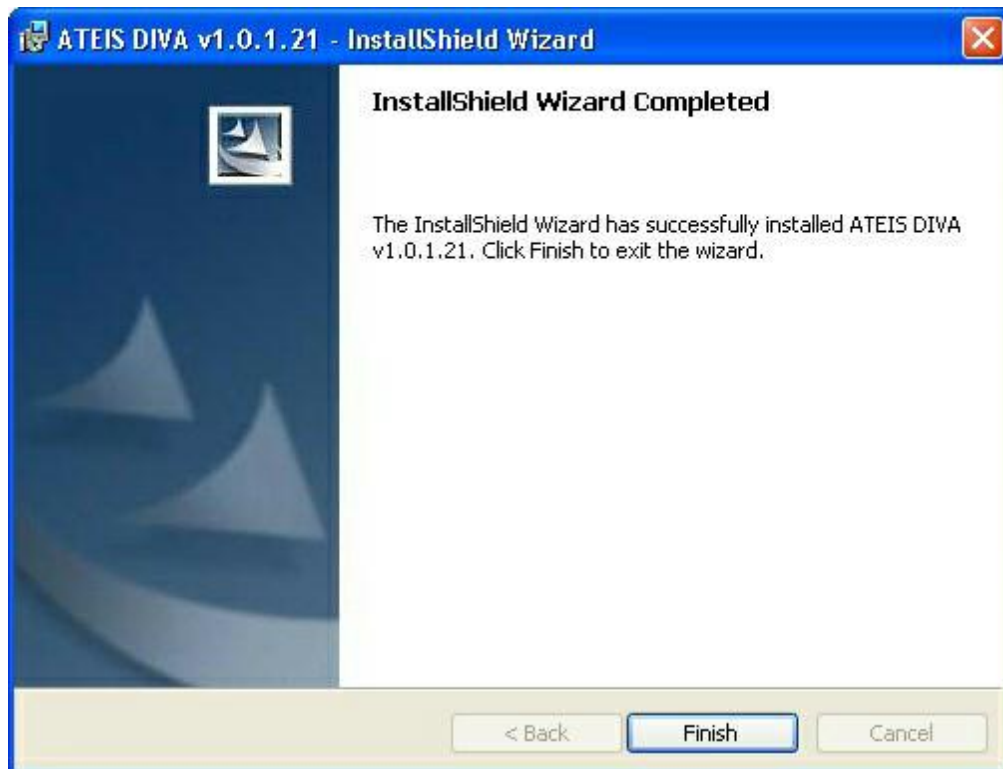
5. Choose an installation folder, by default, it will be install in C:\Program Files

The screenshot shows the 'Destination Folder' window of the ATEIS DIVA v1.0.1.21 - InstallShield Wizard. The window has a blue title bar and a standard Windows XP-style interface. The main area is light beige. At the top, it says 'Destination Folder' and 'Click Next to install to this folder, or click Change to install to a different folder.' Below this, there is a folder icon and the text 'Install ATEIS DIVA v1.0.1.21 to: C:\Program Files\ATEIS\DIVA v1.0.1.21\'. To the right of this text is a 'Change...' button. At the bottom, there is a status bar with the 'InstallShield' logo and three buttons: '< Back', 'Next >', and 'Cancel'.

6. Then launch the installation process by clicking "Install".



7. To finish the Installation process, just click "Finish".



The installation process will automatically create a Desktop Icon like the below one.



❖ Uninstall

To uninstall a current version of the DIVA software, please follow the next few steps:

Click on "start" -> "Program" -> ATEIS -> DIVA -> ATEIS DIVA v1.0.0-Uninstall

Windows Installer will ask you if you are really sure to remove this program, click "Yes".

❖ Software Upgrade

In case of a new release of the DIVA software:

Please go to the [ATEIS website](#) in order to download the last software version.

Before installing the new software, please uninstall the current version.

Double click the new software version icon.

Follow the installation process.

5.1.4 Windows Layout

The chapter will introduce to you the DIVA software. This is a visual presentation in order to let you know where you can find the needed tools.

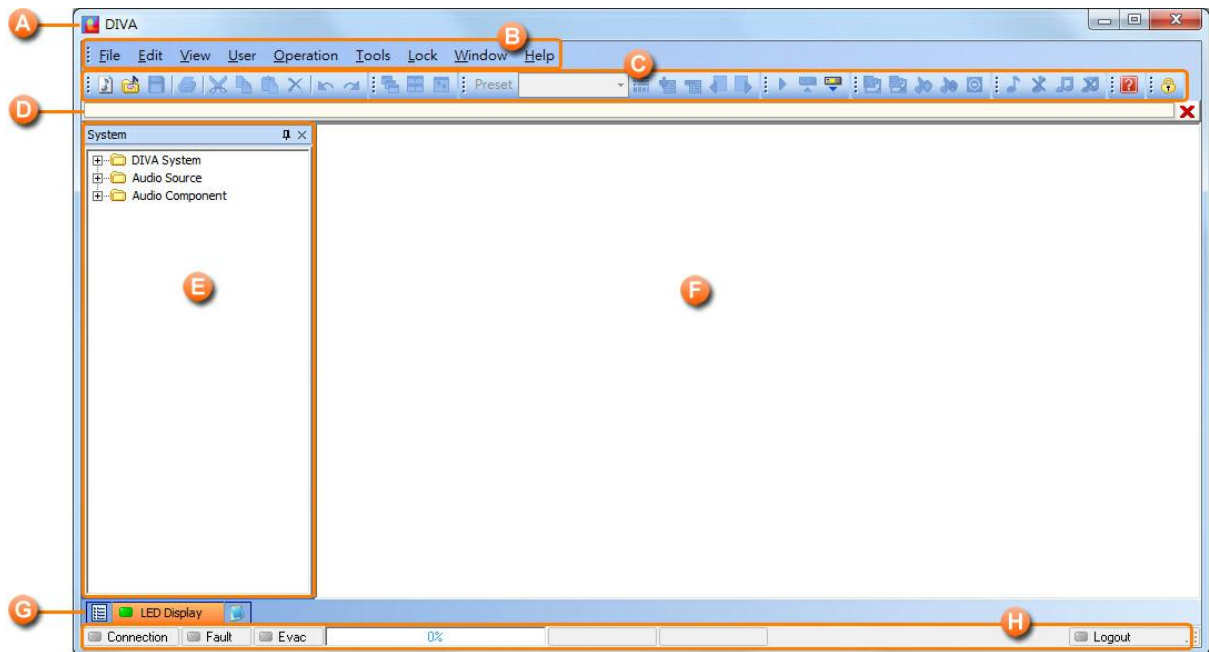
After installing the DIVA software, you can access it:

- Either by double-clicking on the Desktop icon:



- Or by Start -> Program files -> Ateis -> ATEIS DIVA vx.x.x.

The DIVA software starts with no file loaded and a blank worksheet looking as follow:



A Title Bar:

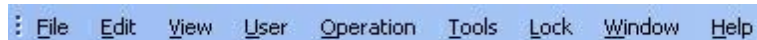
The title bar displays 'DIVA', 'Untitled' if you start a new system design, or the full path name of the saved file.

At the right hand corner you can find the usual Windows minimize button and the close box, which exit the program.



B Menu Bar:

Holds the main menu commands arranged into functionality groups.



The main menu bar contains the following menus:

- File
- Edit
- View
- User
- Operation
- Tools
- Lock
- Window
- Help

C Toolbars:

Toolbar items act like a shortcut to their corresponding menu command.

D Tab Bar:

Shows the window title of all open design and component control windows for quick access.

E Design Component Section:

Holds all design component libraries.

F Design View Area:

This area is your work space showing all design windows and component control windows.

G Property Control Section:

This section slides up for 'System Status', 'LED Display' and 'Preset List'.

H Status Bar:

Displays useful status, communication and compiler information.

5.1.5 File

In this paragraph, you will find everything related to system files as well as printing command. All the DIVA files are saved under the .diva extension.



- **New:** Opens a new system file.
- **Save:** Saves the current system file.
- **Save as:** Opens the 'Save As...' dialog window to choose file path and name.
- **Open:** Opens the 'Open...' dialog window to choose an existing file path and name.
- **Open autosaved:** Opens the last automatically saved file.
- **Recent files:** Pathname>> Quick access to recently used files.
- **Print:** Starts printing.
- **Exit:** Terminates the current DIVA session after asking to save modified files.

5.1.6 Edit

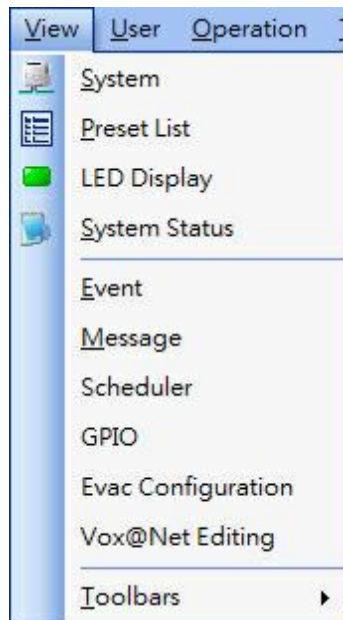
Here you will find all the common basic edition tools of windows based software.



- **Undo / ctrl+z:** Will undo the last actions.
- **Redo / ctrl+y:** Will redo the last action or will retrieve the last state in case undoing too far.
- **Cut / ctrl+x:** Cuts out the active selection and copies it to the operating system's clipboard.
- **Copy / ctrl+c:** Copies the active selection to the operating system's clipboard.
- **Paste / ctrl+v:** Pastes the content of the operating system's clipboard.
- **Delete / Del.:** Deletes the active selection.

5.1.7 View

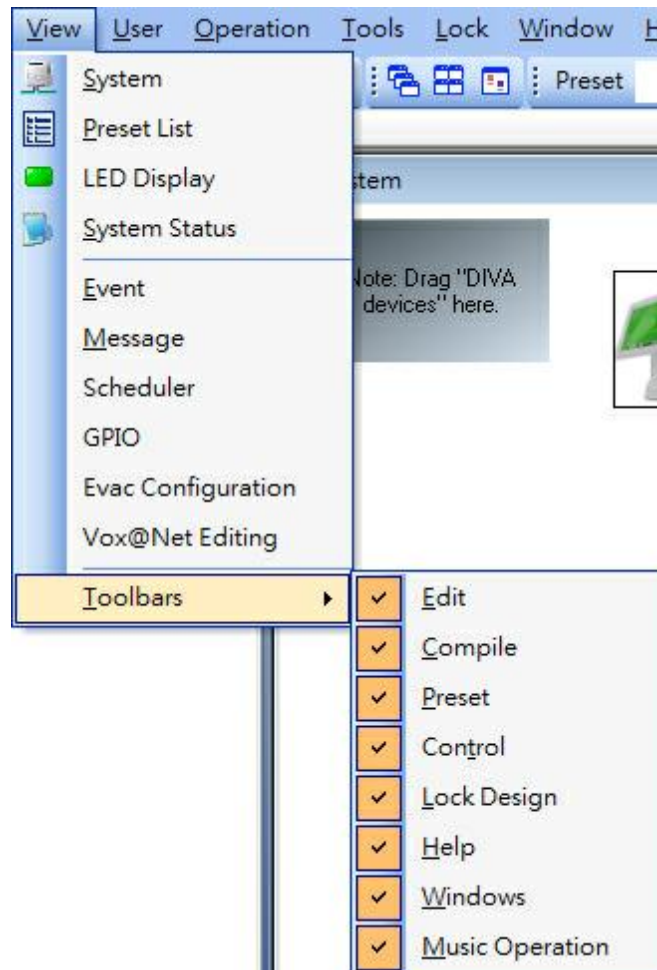
The commands in this group are used to call closed or invisible control windows and toolbars.



- **System:** Opens the Design Component Section sub-window.
- **Preset List:** Opens the preset list sub-window, see [Property Control Section](#).
- **LED Display:** Opens the sub-windows where the front panel LEDs are replicated, see [Property](#)

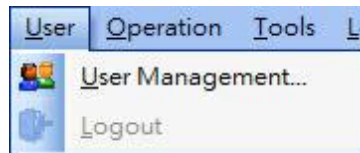
Control Section.

- **System Status:** Open the system sub-window where all the related logfile action can be found, see [Property Control Section](#).
- **Event:** Opens the Event Manager window, see [how to use events](#).
- **Message:** Opens the Message Manager window, see [how to add messages into DIVA](#).
- **Scheduler:** Opens the Scheduler window, see [how to use the scheduler](#).
- **GPIO:** Opens the logic inputs/outputs configuration window, see [how to use logic inputs](#).
- **Evac Configuration:** Opens the Evac configuration window, see [how to use evac configuration](#).
- **Vox@Net Editing:** Opens the Vox@Net editing window, see [how to put DIVA in Vox@Net](#)
- **Toolbars:** Within this menu subgroup, you'll find all the toolbars available in DIVA software.



5.1.8 User

Here you are able to manage the user right: add users with a password and restrict access only to needed features.



- **User Management:** Calls the 'User Management' window to set up users or user groups and their individual privileges
- **Logout:** Opens the 'User Login' window

For more information about the user management, see [how to use the user management](#).

5.1.9 Operation

Here you can find all data communication commands.

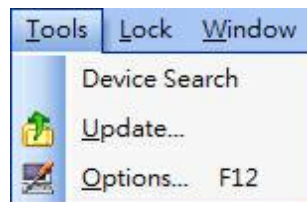


- **Set Date/Time:** Allow user to set the time and date of the DIVA unit.
- **Set Store Password:** Offers a store process protection, password management.
- **Compile:** Compiles the current configuration and displays eventual errors.
- **Store:** Upload configuration parameter into the DIVA's parameter memory.
- **Reverse:** Downloads the DIVA configuration in the computer.
- **Connect:** Establishes data connection to the machine(s) in order to monitor or adjust parameters online.
- **Disconnect:** Disconnects DIVA software from the machine(s).

- **Audio Enable:** Enables DIVA's audio processing.
- **Audio Disable:** Disables DIVA's audio processing.
- **Stop All Events:** Stops all running events.
- **Music 1 On:** Enable music sources one routing.
- **Music 1 Off:** Disable music sources one routing.
- **Music 2 On:** Enable music sources two routing.
- **Music 2 Off:** Disable music sources two routing.

5.1.10 Tools

Here you will find command related to communication with DIVA units.



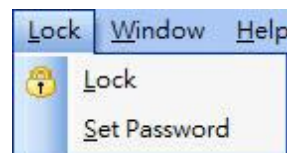
- **Update:** Will update the DIVA Firmware to the one corresponding to your current software version, see [how to update DIVA](#).

Note: Upgrading from a too old version to the current one could cause configuration files compatibility issues.

- **Device Search:** Will search and display all the DIVA Master IP connected to the TCP/IP network, see [how to search device](#).
- **Options:** Will open the Options window in which you will be able to set [network parameters](#), as well as [software color scheme](#) and [autosave](#) function.

5.1.11 Lock

The Lock menu allow you to lock the software with a password in order to avoid another user to manipulate your configuration.



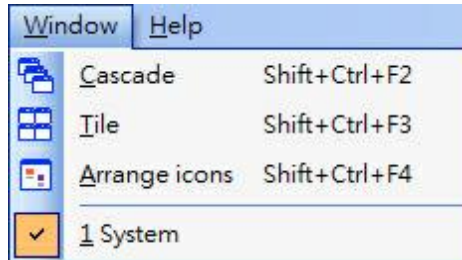
- **Lock:** Locks the software.

Note: if no password were specified, every user can unlock the software.

- **Set Password:** Offers the possibility to set a password for unlocking the software. If set, as soon as you press the unlock button, it will prompt you to enter the last password set.

5.1.12 Window

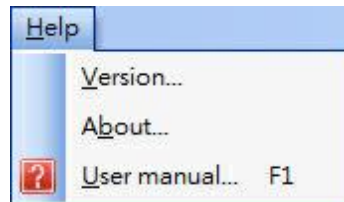
This menu provides window arrangement commands, and quick access to open design or component control windows



- **Cascade:** Cascades the current opened windows.
- **Tile:** Tiles the screen with the current opened windows.
- **Arrange Icons:** Arranges Icons in a window where possible.
- Here you can find a list of all currently opened windows, for example here's only one window named System displayed.

5.1.13 Help

Here you will be able to check that the software version corresponds to the one into DIVA units access to software information as well as the help user manual document.



- **Version:** Shows the software version and checks the DIVA units embedded version, see [how to verify DIVA versions.](#)
- **About:** Opens a information windows about copyrights, software release version, etc.
- **User Manual:** Opens the complete help user manual.

5.1.14 Toolbars

In the DIVA software, the different toolbars offers shortcut to main menu items.



Here are the list of them from left to right and up to down:



- **New Project:** Opens a new project.

- **Open:** Opens existing project.
- **Save:** Saves current project.
- **Print:** Opens the print preview window. See "[How to print project](#)" to learn more about the printing options.
- **Cut:** Cuts out the active selection and copies it to the operating system's clipboard.
- **Copy:** Copies the active selection to the operating system's clipboard.
- **Paste:** Pastes the content of the operating system's clipboard.
- **Delete:** Deletes the active selection.
- **Undo:** Will undo the last actions.
- **Redo:** Will redo the last actions or will retrieve the last state in case undoing too far.



- **Cascade:** Cascades the current opened windows.
- **Tile:** Tiles the screen with the current opened windows.
- **Arrange Icon:** Arranges Icons in a window where possible.



- **Lock:** Locks the software. Note: if no password were specified, every user can unlock the software.
- **Help:** Opens the user manual



- **Preset List:** Allows choosing a preset in the exiting ones.
- **Name:** Allows modifying the names of the exiting presets.
- **Add Preset:** Add a new Preset to the system. By default, the new preset is named "Untitled".
- **Delete Preset:** Deletes the preset chosen in the Preset List.
- **Preset Save:** Allows saving new parameters to the preset in the Preset List.
- **Preset Load:** Allows loading the preset selected in the Preset List.



- **Compile:** Compiles the current configuration and displays eventual errors.
- **Store:** Upload configuration parameter into the DIVA's parameter memory.
- **Reverse:** Downloads the DIVA configuration in the computer.



- **Connect:** Establishes data connection to the machine(s) in order to monitor or adjust parameters online.

- **Disconnect:** Disconnects DIVA software from the machine(s).
- **Audio Enable:** Enables DIVA's audio processing.
- **Audio Disable:** Disables DIVA's audio processing.
- **Stop All Events:** Stops all running events.



- **Music 1 On:** Unmutes the music sources one.
- **Music 1 Off:** Mutes the music sources one.
- **Music 2 On:** Unmutes the music sources two.
- **Music 2 Off:** Mutes the music sources two.

5.1.15 Tab Bar

Opening design or component control windows creates a new tab within the tab bar. The active window is orange highlighted and can be closed by clicking the close box at the right side of the bar.



As the tab bar gets full, additional orange colored arrow control boxes will appear at the right side of the tab bar.

Click on the left or right arrow to move the content of the tab bar to the left or the right.

5.1.16 Status Bar



The status bar shows quick look status information about:

- **Connection:** Lights up when real time connected to DIVA.
- **Fault:** Lights up when a faults status is detect onto DIVA.
- **Evac:** Lights up when a Evac state is detected.
- **Login:** shows in which user level you are logged in.

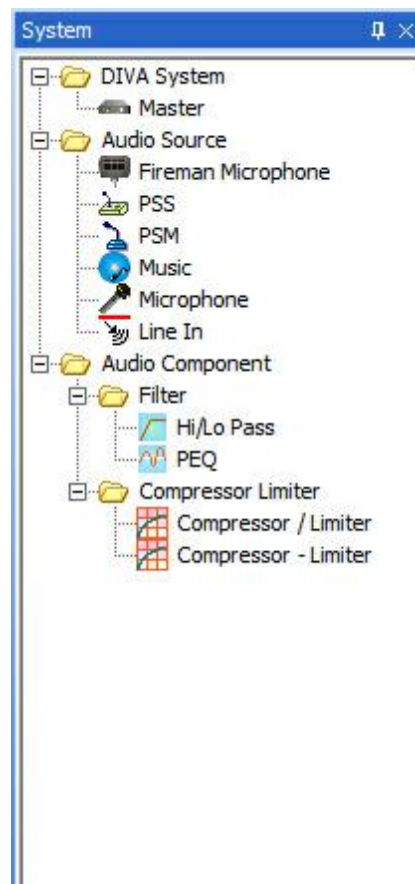
Additional Status Information:

- **Timeline:** Shows the progress of commands like opening component control windows.
- **Modified:** Indicates if the current file has been modified since last save.
- **Compiled:** Indicates if the current file has been compiled or not.

5.1.17 Design Component Section

The Design Component Section shows, in a tree folder arrangement, all element that can be connected or added in a DIVA configuration.

All the component are drag and drop component, errors are avoid thanks to the emplacement identification. See [How to Add Design Component](#).

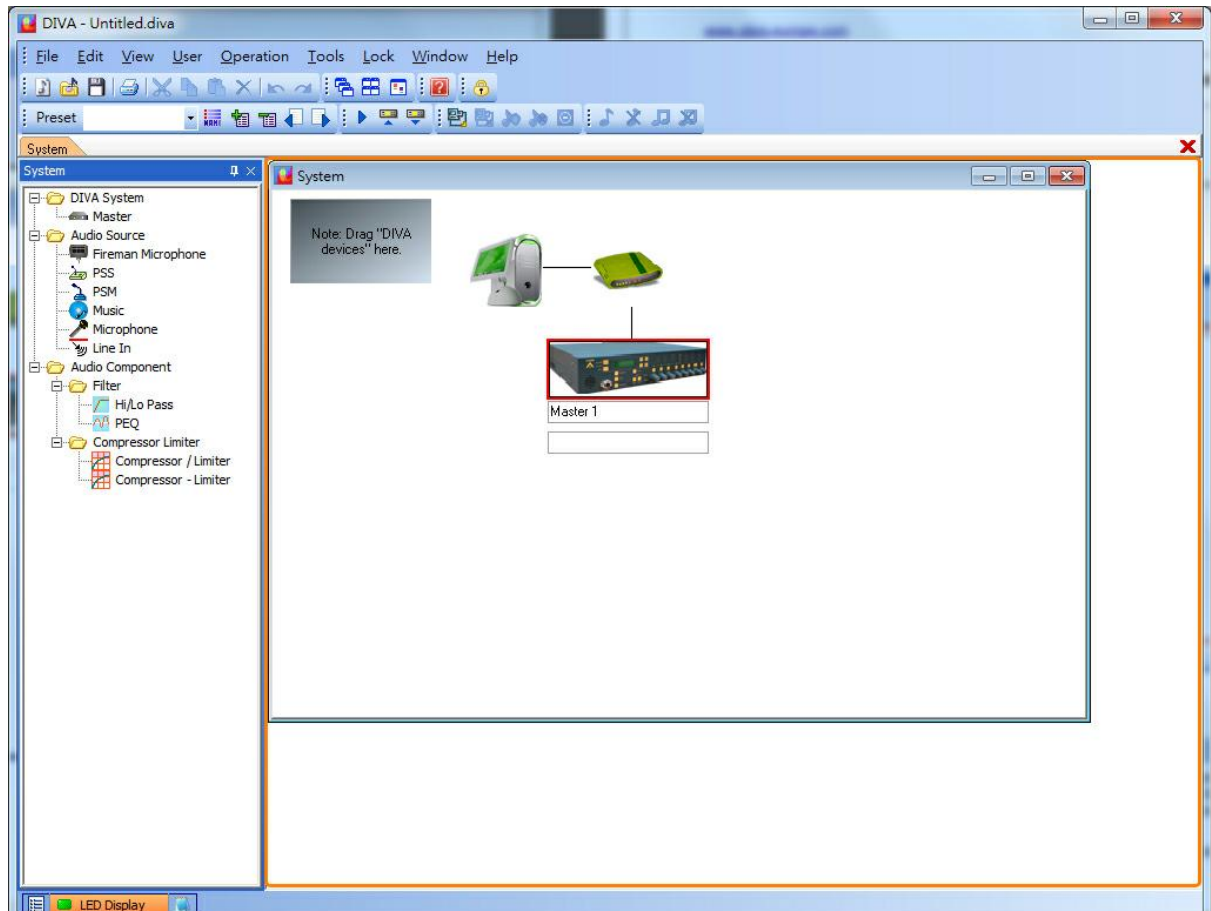


- **DIVA System:** In the DIVA System folder, you will find DIVA Master unit icon.
- **Audio source:** In Audio Source folder, you will find audio elements that can be connected to a master DIVA unit.
 - Fireman Microphone: see [How to use a Fireman Microphone](#)
 - PSS: see [How to Use PSSG2 Microphone](#) and [How to Use PSSG2-E Microphone](#)
 - Music: see [How to Use Music Source](#)
 - Microphone: see [How to Use MIC/LINE Input](#)
 - Line In: same as the above.
- **Audio Component:** Audio Component contains high/low pass filters, PEQ equalizer and compressor limiter components.
 - Hi/Lo Pass: see [How to Use Filters](#)
 - PEQ: see [How to Use PEQs](#)
 - Compressor/Limiter: see [How to Use Compressor/Limiter](#)
 - Compressor - Limiter: [see How to Use Compressor - Limiter](#)

5.1.18 Design View Area

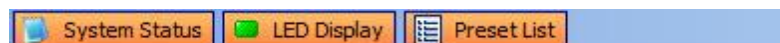
In this area, you will:

- Develop your DIVA configuration and DIVA master network (see [How to perform a DIVA master Network](#)).
- Access the monitor window, see [How to Use Monitoring](#).
- Access to DIVA element and their adjustments.



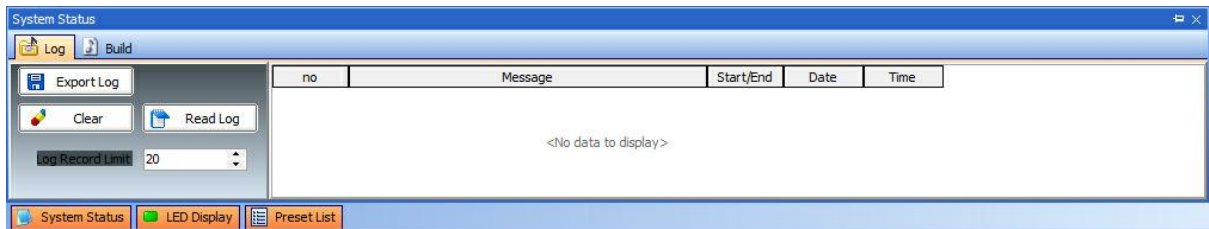
5.1.19 Property Control

In this section you can find several control windows docked together into a sliding control panel. You can look at the different control windows by bringing the cursor over their tabs at the bottom of the very bottom of the main window. The corresponding control window will slide up allowing you to quick-examine or quick-modify settings without selecting it from the Menu Bar.

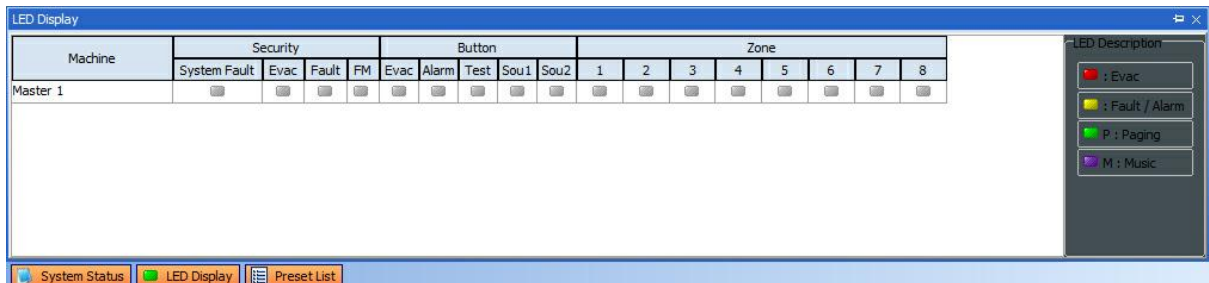


The control panel will automatically slide down again if you move the cursor out of it's space giving again the whole view to the Design View Area.

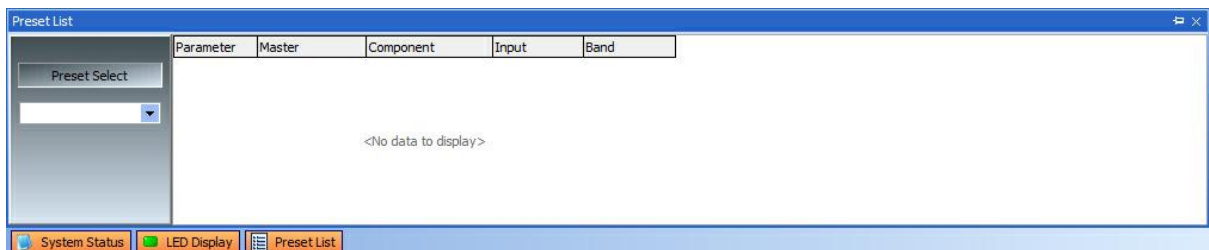
- **System Status:** Gives access to Log files management as well as project build historic.



- **LED Display:** offers real time status LED display, only if connected to DIVA units. It is a replicate of the front panel LED display.



- **Preset List:** shows all parameters controlled in the preset selected (drop-down menu).



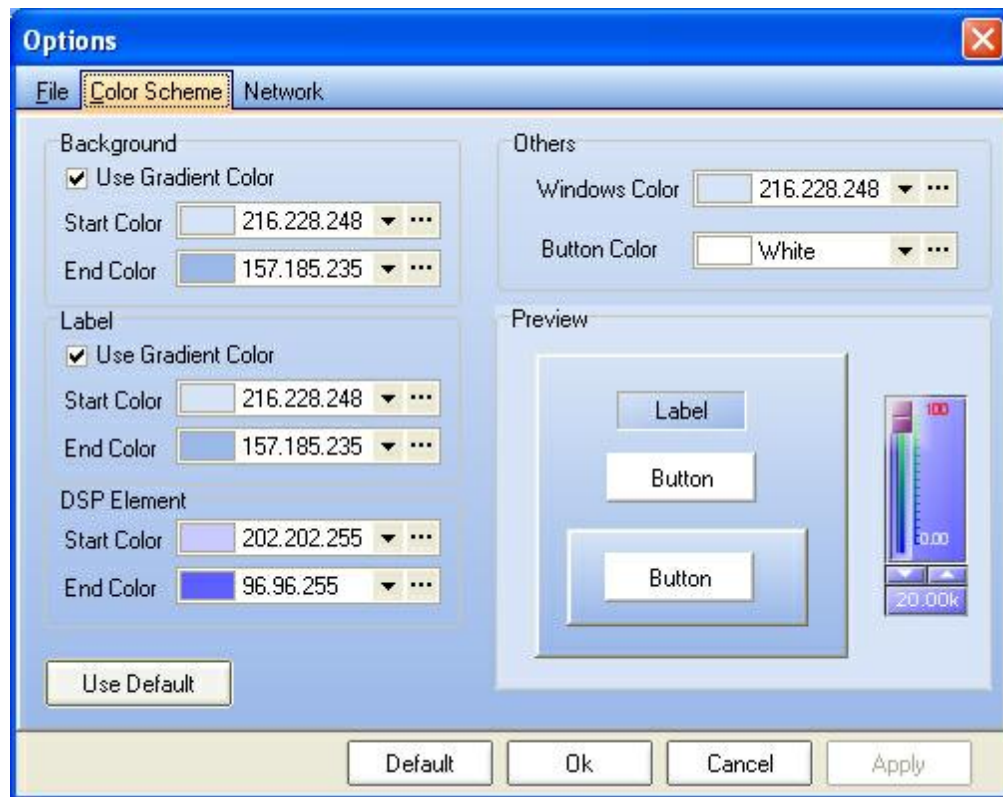
5.1.20 Color Scheme

In the Color Scheme Options page (Tools -> Options, or press F12), you will be able to personalize the color scheme of DIVA software.

You can change color for:

- Background
- Label
- DSP element
- Other (Windows and Buttons)

By using the "Use Default" button, you can retrieve default color scheme.



5.2 How To

5.2.1 Save/Open

The Save/Open procedure is quite identical to most of the Microsoft Windows based software. The icon used as well as keyboard shortcuts are well-known for Microsoft Windows users.

Here you will find procedures to:

❖ Open a DIVA file:

Click on the Open Icon (Highlighted in picture below) in the Edit toolbar or go to menu File -> Open or even press ctr+o.



❖ Save a DIVA file:

Click on the Save Icon (Highlighted in picture below) in the Edit toolbar or go to menu File -> Save or even press ctr+s.



The first time you will be saving a project, you will be prompt to enter a name for that file. The 'Save' command is used to save current project under the current name.

Note: DIVA's configuration files are saved in .diva extension.

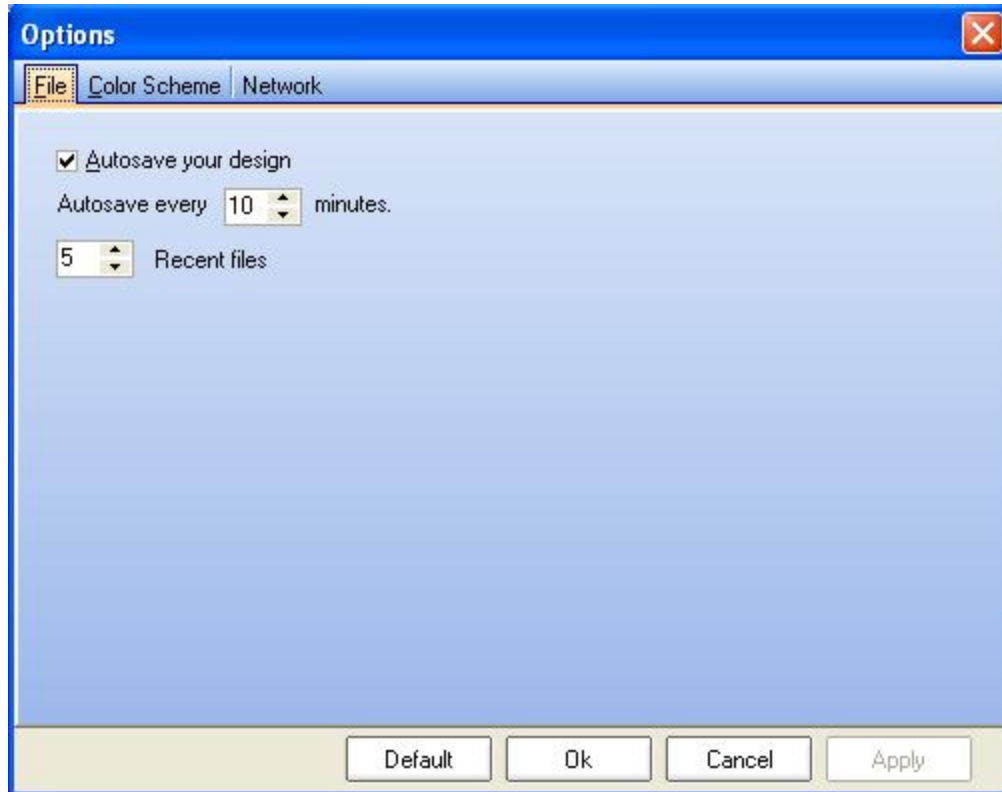
❖ Save As:

The 'Save As' option can be used to save a configuration under a different name.

Simply go to the menu File -> Save As

❖ Autosave:

In the Options page under File tab, you have the possibility to set an autosave procedure. You also can set the number of recent files visible in the file menu -> recent files.



- Tick the "Autosave your design" option in order to activate the autosave option.
- Choose after how much time the "autosave" will automatically run.
- Choose how many recent files would be visible in the menu file -> recent

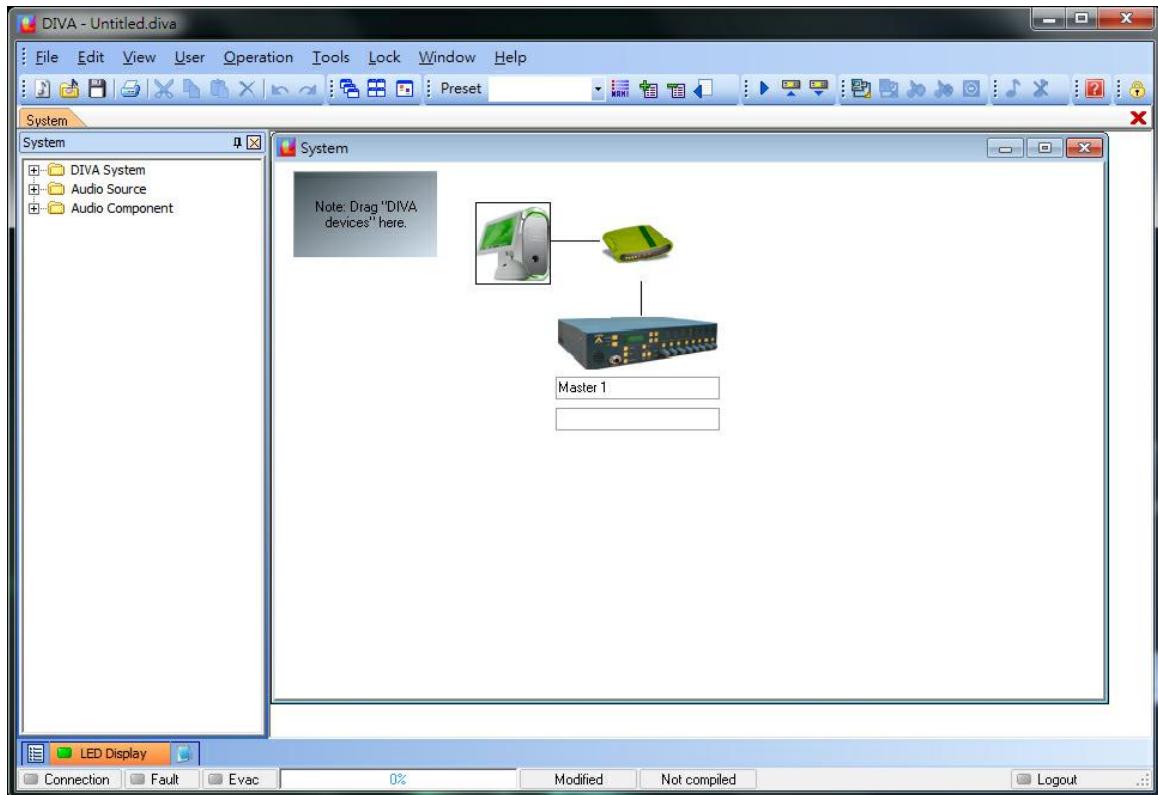
5.2.2 Project

❖ Start a New Project

In order to start a new project, go to the menu: File -> New, or click on the 'New' shortcut on the edit toolbar (see below) or even type ctrl+n.



After launching a new project, the DIVA software start a new system window looking like the one on the picture below.



Once the new project is launched, you will need to set up the network options as well as the correct IP address, see [How To Configure Network Option](#) and [How To Set IP Address](#).

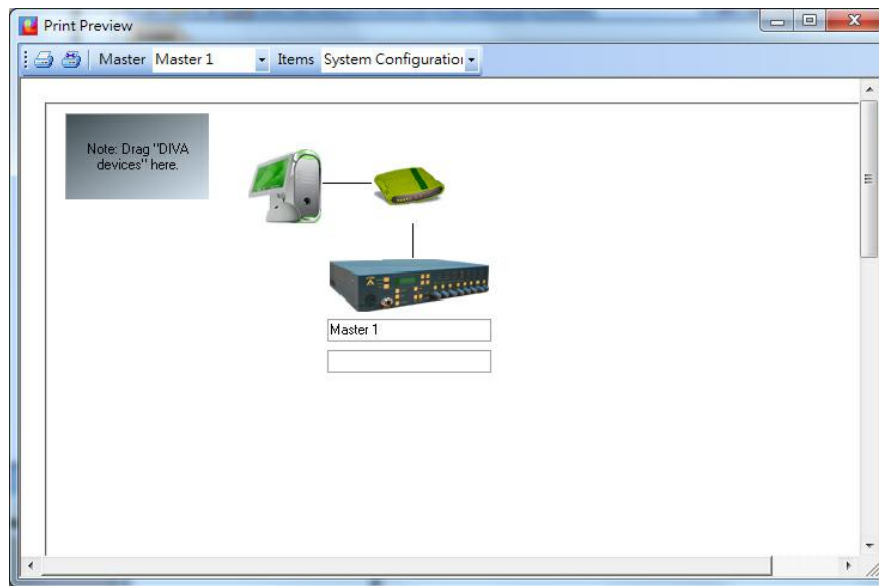
❖ Print Project

In order to print a project, you need to access the print preview page. To access this page, go in the menu: File -> Print or click on the print shortcut (highlighted on picture below) in the edit toolbar.



Once you launch the print command, you will enter the "Print Preview" window, see below. The print preview offer you the possibility to print DIVA main windows separately.

In case of DIVA master Network, you can select which master window you want to print.



The print toolbar include:

- Print Button: in order to send the print request.
- Print Setting Button: in order to set your printer parameters.
- Master Drop-Down Menu: here you can change the DIVA master unit.
- Items Drop-Down Menu: Here you can select which window have to be print, choose between 'System configuration', 'Master Configuration' and 'DSP Configuration'.

5.2.3 Perform A DIVA Master Network

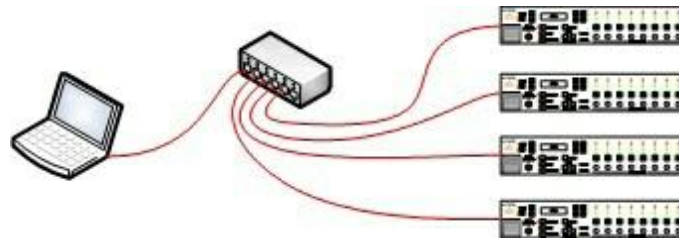
As briefly explained before, you can put several DIVA master on a same network. The DIVA master network is based on Ethernet protocol. Keep in mind that DIVA slave unit are not on Ethernet network. In order to complete a DIVA network you will need the following devices:

- Ethernet Switch/Hub
- Multiple DIVA8M units
- A computer

Before connecting those devices on the network, you need to check the IP address of each DIVA master units and set each DIVA IP address corresponding to your project's network.

By default, a new DIVA8M unit has the following IP: 192.168.100.100. See [How to Set IP Address.](#)

Link the DIVA master units and the computer to the Ethernet switch, see diagram below.



After the devices have been connected and in order to know if your network is well configured, go to the "Device Search" window: Tools -> Device Search and start a search.

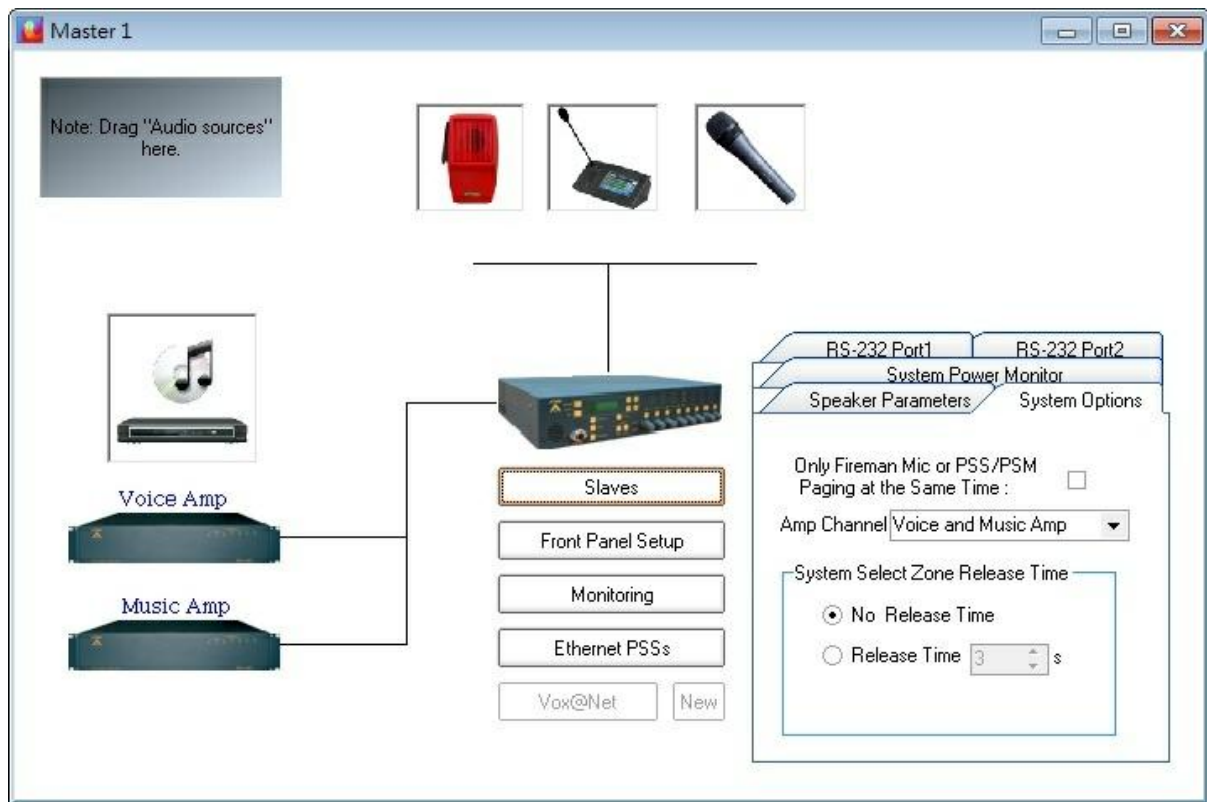
If some DIVA master aren't visible, please check wiring and/or IP address settings. Also check your computer network card parameter and be sure they are set in accordance to the DIVA network built.

Note: DIVA master won't be able to communicate with each other through the network. This network only intend to offer quick configuration solution over IP.

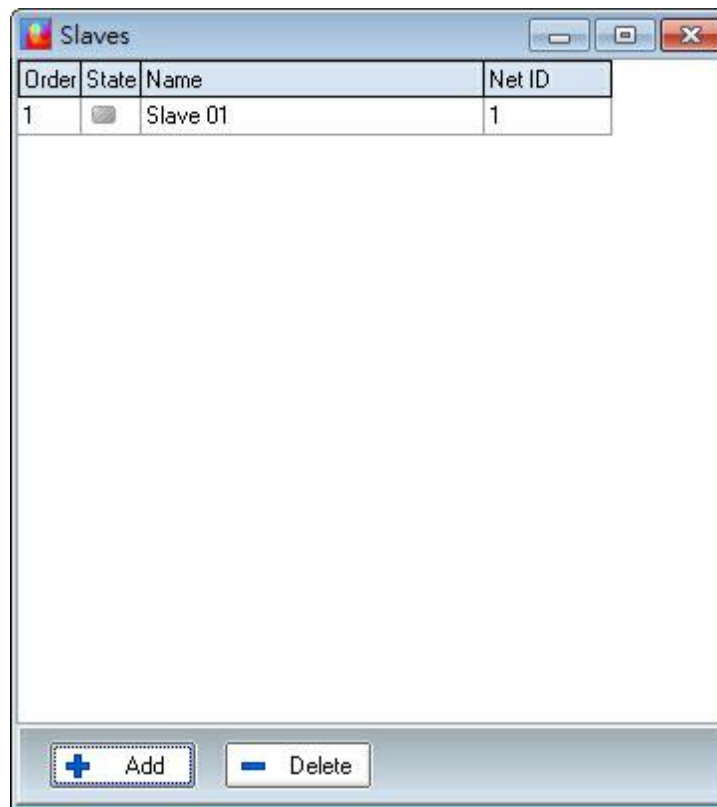
5.2.4 Add DIVA8S slave

From DIVA software v2.0.0.1, DIVA8S unit can be added in the configuration. In order to use slave units, follow the next procedure.

- In the Master window, click on the "Slaves" button.



- Once click, the following window pops up.



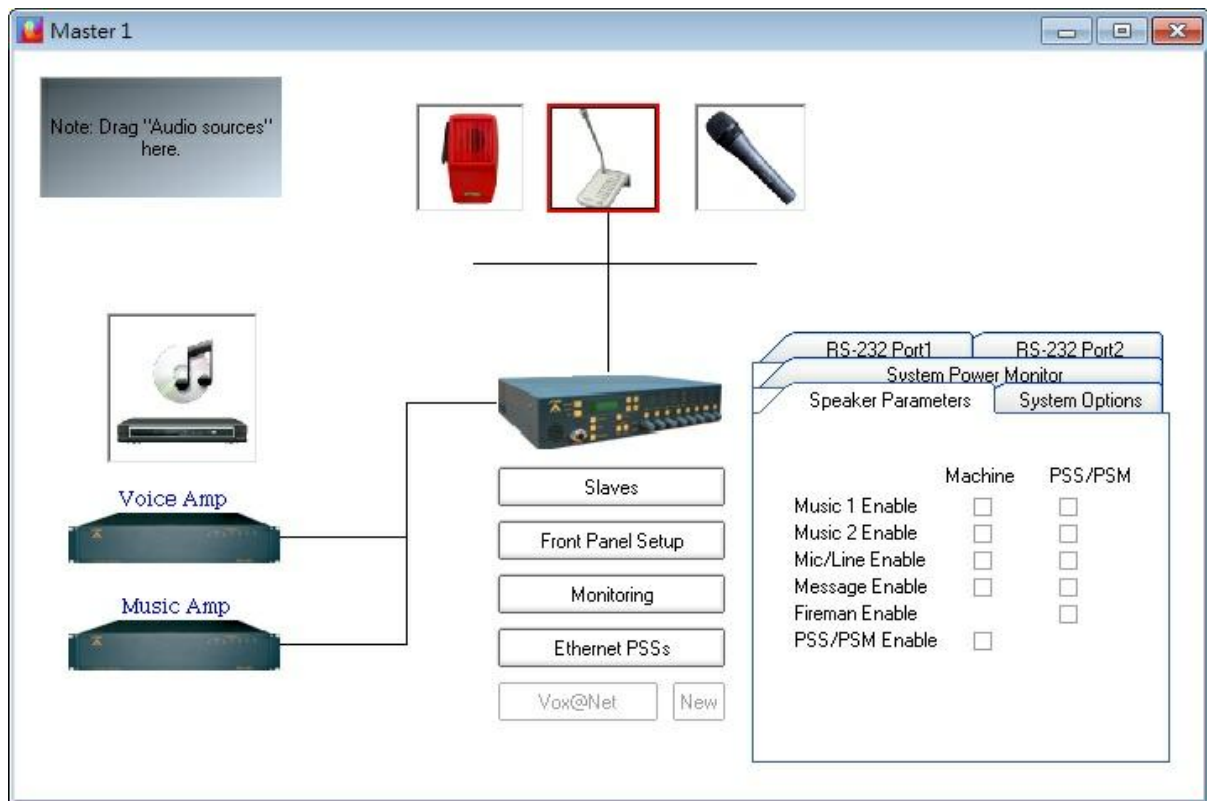
- **Order:** Display the order of the slave from a DIVA configuration point of view (independent from ID setting).
 - **State:** Indicators that shows the status of the slave unit. Only working when real-time connected to the master.
 - **Name:** Displays the name of the slave unit, only for configuration purposes. The name can be changed to suit your need by simply clicking in the name box.
 - **Net ID:** Displays the current slave unit ID.
- To add a slave unit to your configuration, simply click the "Add" button.
 - To delete a slave unit from your configuration, select the slave in the list and press the "Delete" button.
 - For each slave added, you can specify its Net ID. Click in the Net ID box and use the appearing drop-down menu. The ID must fit the slaves' hardware ID settings.
 - Once all the slaves have been set in the configuration, make sure to verify their firmware version using the version menu and update version if needed.

When slaves are configured as existing, in all zone selection sub-menu, the slaves' zones will appear as selectable as well as slave GPIO relay, see below for an example.

Using slave does not change the way you'll program the DIVA, it only add more contacts and zones.

5.2.5 Set Speaker Parameters Setting

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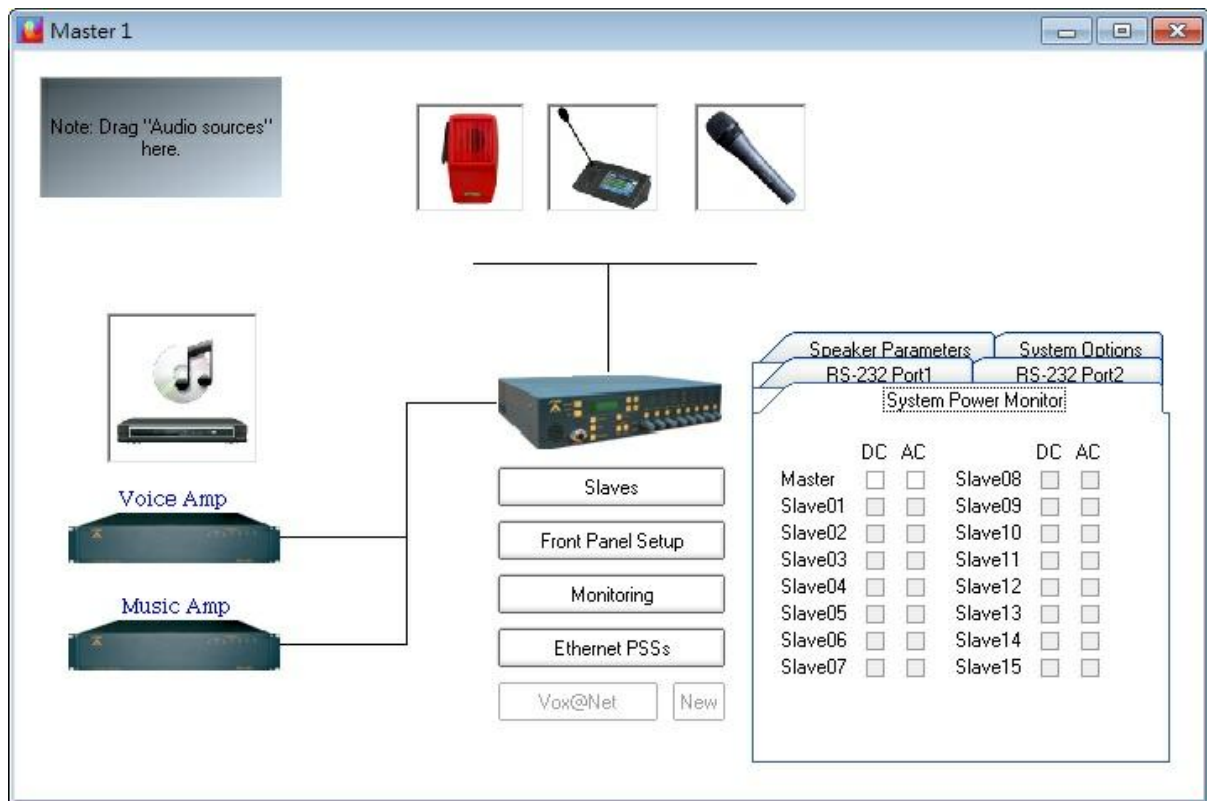


- **Music 1 Enable:** By ticking this option, the music source 1 will be routed either on the DIVA monitoring speaker or PSS speaker.
- **Music 2 Enable:** By ticking this option, the music source 2 will be routed either on the DIVA monitoring speaker or PSS speaker.
- **Mic/Line Enable:** By ticking this option, the Mic/Line source will be routed either on the DIVA monitoring speaker or PSS speaker.
- **Message Enable:** By ticking this option, the messages will be played either on the DIVA monitoring speaker or PSS speaker.
- **Fireman Enable:** By ticking this option, the messages will be played on PSS speaker. For feedback reason, the fireman microphone cannot be routed to DIVA monitoring speaker.
- **PSS/PSM Enable:** By ticking this option, the PSS/PSM paging will be played either on the DIVA monitoring speaker.

5.2.6 Set Power Monitor Setting

Diva master and slave unit can be ordered with an optional 230VAC power socket for non EN-54 compliant installation.

In that case, you are able to select the power supply monitoring mode for the master and each slave: DC (24V) or AC (230V)

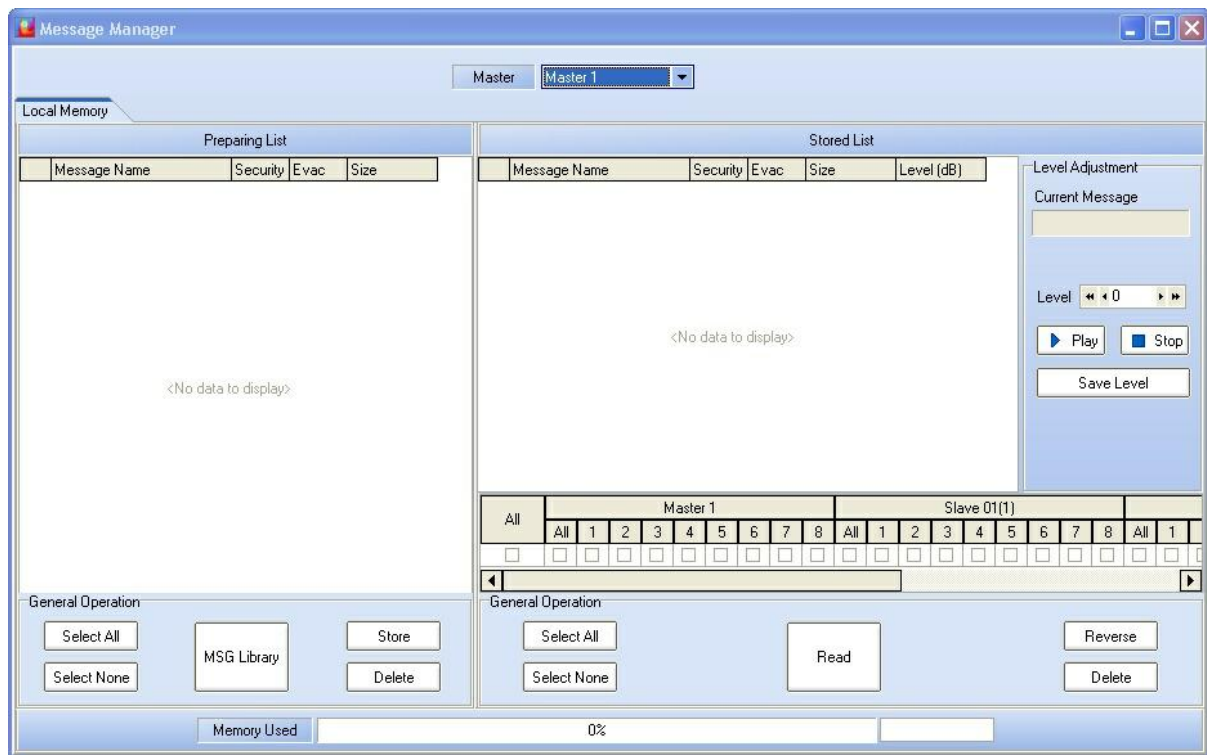


- To activate or deactivate the DC monitoring, simply tick or untick the corresponding device DC checkbox.
- To activate or deactivate the AC monitoring, simply tick or untick the corresponding device AC checkbox.

5.2.7 Add Messages Into DIVA

In order to store messages into DIVA memory, you have to use the message manager window.

- Go under menu: View -> Message. The message window will pop up, see below.
- In the upper part of the Message window, you can select the DIVA master unit you want to work on for messages.

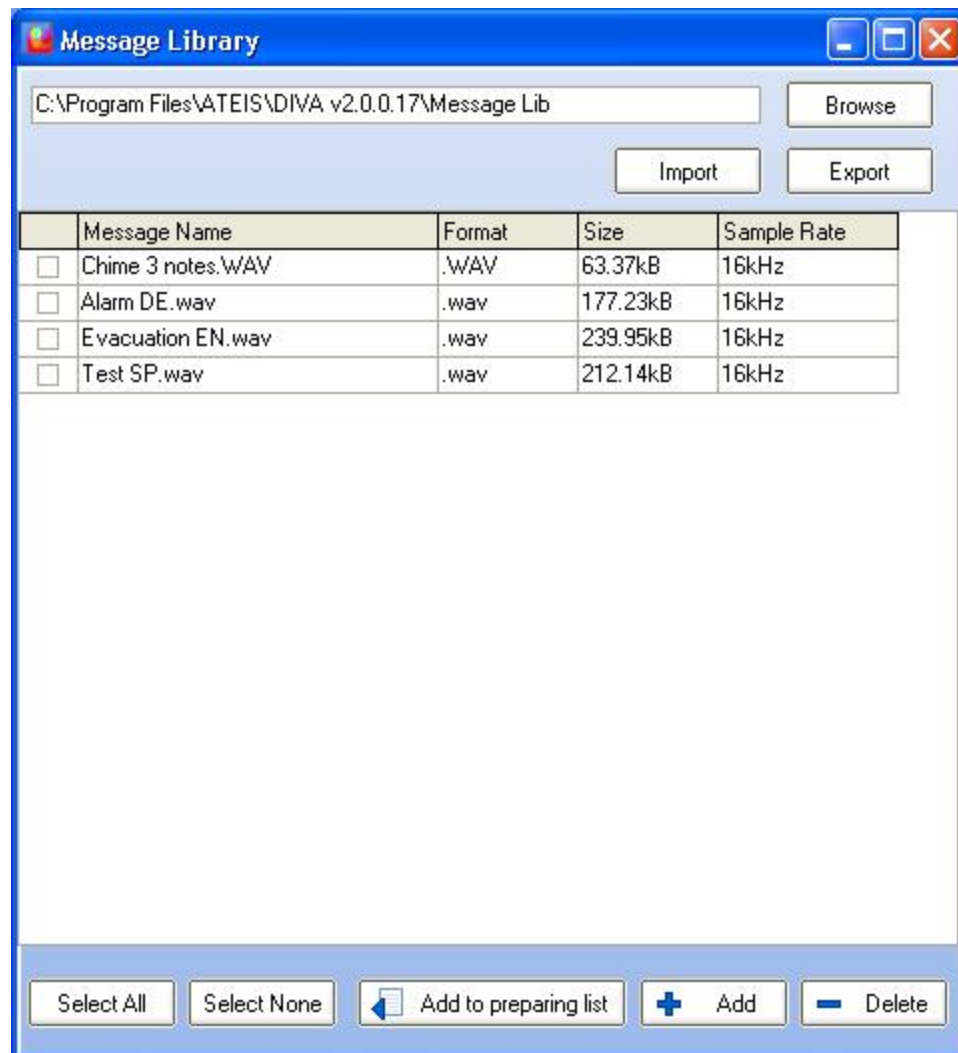


The message window is divided in two sections, one for the message taken from the message library (left one) and one for the messages stored in DIVA (right one).

Here is a list of buttons and their corresponding function:

- Select All: Allows to instantaneously select all the messages from the list.
- Select None: Instantaneously deselect all the selected message.
- MSG Library: Will open the message manager.
- Store: Stores permanently the selected messages into DIVA's memory.
- Delete: Deletes selected messages from the store list.
- Read: Reads messages stored into DIVA unit.
- Delete: Deletes messages from DIVA memory.
- Select All: Allows to instantaneously select all the messages from the list.
- Select None: Instantaneously deselect all the selected message.

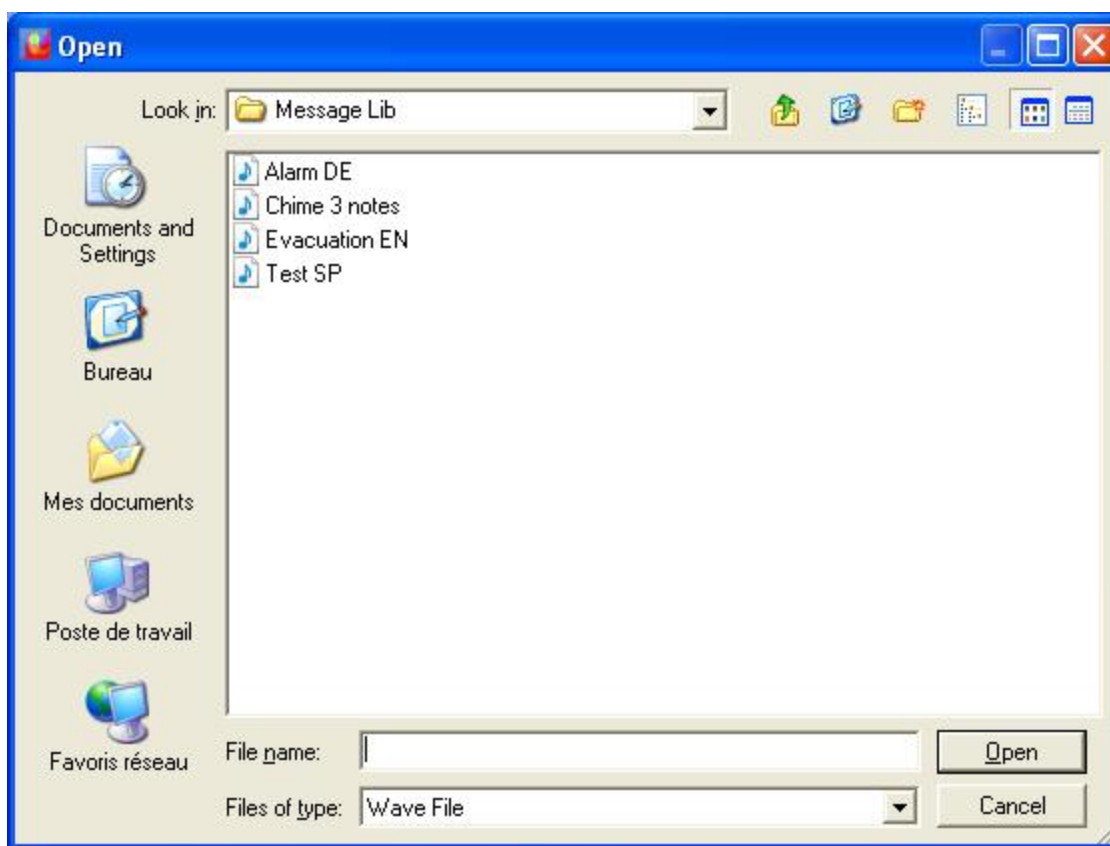
To add messages to DIVA, you need to access the message manager Library by clicking on "MSG Manager". The Message Library window will pops up, see below.



- Select the message by ticking the check box.
- Click the "Add to Preparing List" button.

In the message library window, you can add and delete messages. Clicking the Add button will open a new window, see below. In this window you can select any wave file to be a message.

Note: Only 16 kHz 16 Bits format will be stored. DIVA can handle up to 45 minutes of messages at this format.



By using the Import/Export buttons on the Message Library page, you are able to import and export complete message library. After adding messages from the library to the message manager, the procedure to store them into DIVA is as follow:

- Tick the messages you want to store and specify whether they are security messages and an evacuation message.
- Click Store to start the store process .

Once messages are stored into DIVA, you can adjust independently their level. Follow the next few steps:

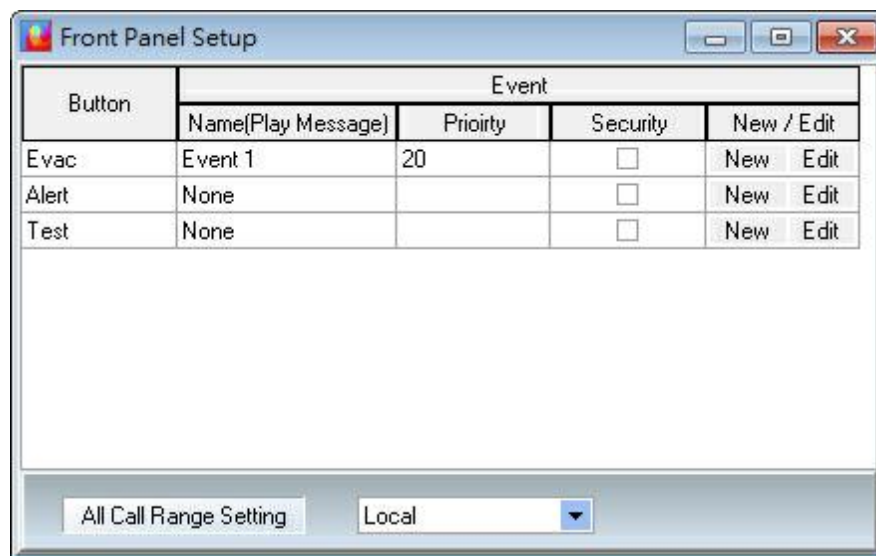
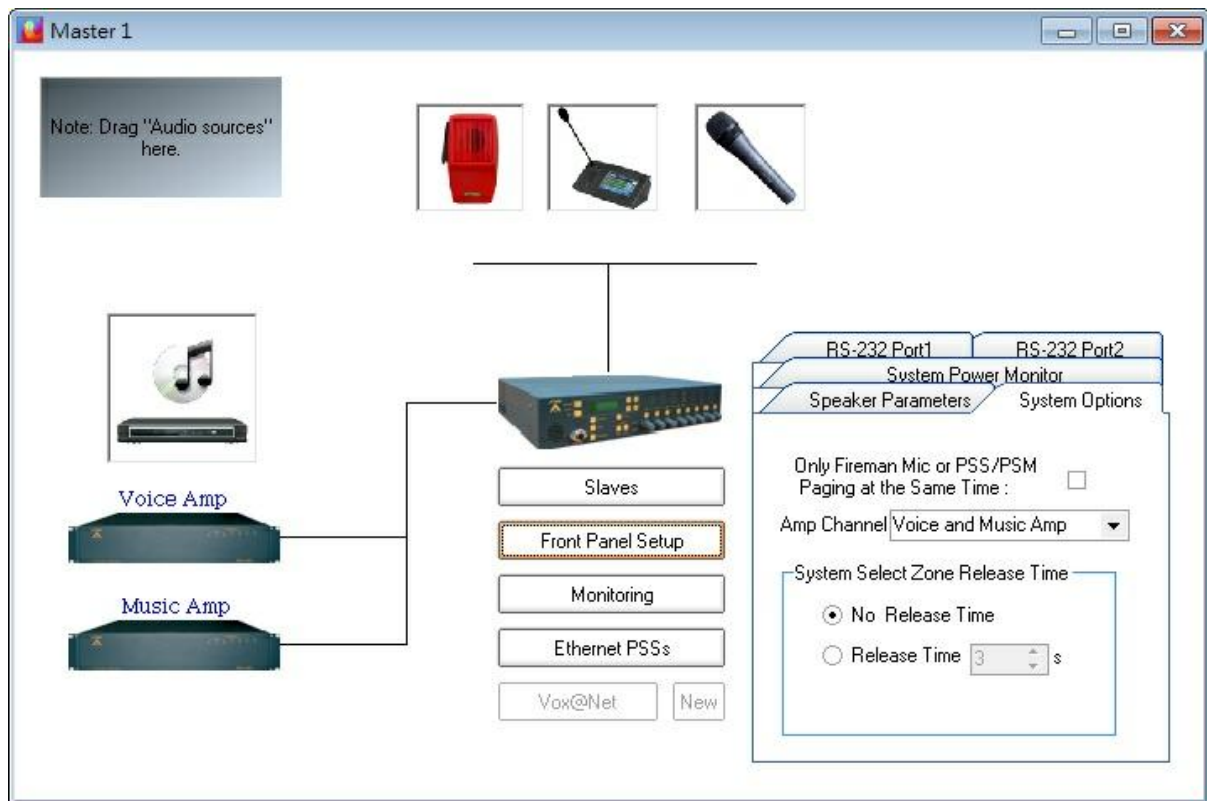
- Select a message in the list, the name of the message will be displayed in the Current Display indicator.
- Select a zone where you want the message to be played.
- Press the Play button to start playing the message.
- Adjust the level with the arrow keys.
- Press the Stop button to stop playing the message
- Press the Save Level button to save the current level into the memory

Note: Each message have an individual level setting, so each message could have a different level. Keep in mind that the message level cannot be set differently for each zone.

5.2.8 Set up Front Panel Message

There are three message button on the front panel: Evacuation, Alarm and Test. In order to assign play message events to those buttons, follow the next steps.

Access the front panel setup window by clicking on the Front Panel Setup button in the master page, see below.



At the left of the window, you will find the button name. You can set an event for only one button, two or all.

- In the corresponding line, click on New to assign a new play message event to the button or choose an existing one using the drop-down menu accessible by clicking in the Name cell. Event created is by default named Event X
- Click the Edit button to enter the play message event window, see below.

Play Message Event

Type: Play Message Priority: 20 (Zero equals highest)

Name: Event 1 Attrib.: ☐ Security

Start Impulse Stop Impulse

☒ Enable

☐ Pulse: 50 ms ☐ Static

Device	Logic Output Channel								
	All	1	2	3	4	5	6	7	8
Master	☐	☐	☐	☐	☐	☐	☐	☐	☐

ACK Relay Busy Relay

☒ Enable

Device	Logic Output Channel								
	All	1	2	3	4	5	6	7	8
Master	☐	☐	☐	☐	☐	☐	☐	☐	☐

Message: Play Mode: ☐ Continuous

Conflict: ☐ Cancel All ☒ Coexist Repeat Times: 1

Pre-define Zone: ☐ Pre-define Zone Enable

All	Master 1								
	All	1	2	3	4	5	6	7	8
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

☒ OK ☒ Cancel

For all the settings available, please refer to the following list:

- **Type:** Display the type of event you are creating or modifying
- **Name:** Here you can specify a name for the event created. Default is Event X
- **Priority:** Here you can adjust the priority of the event. 20 is the lowest, 0 is the highest
- **Attrib.:** Here you can specify if this event is a security one or not and if it is an evacuation event or not. See Common Option to learn more about the security option

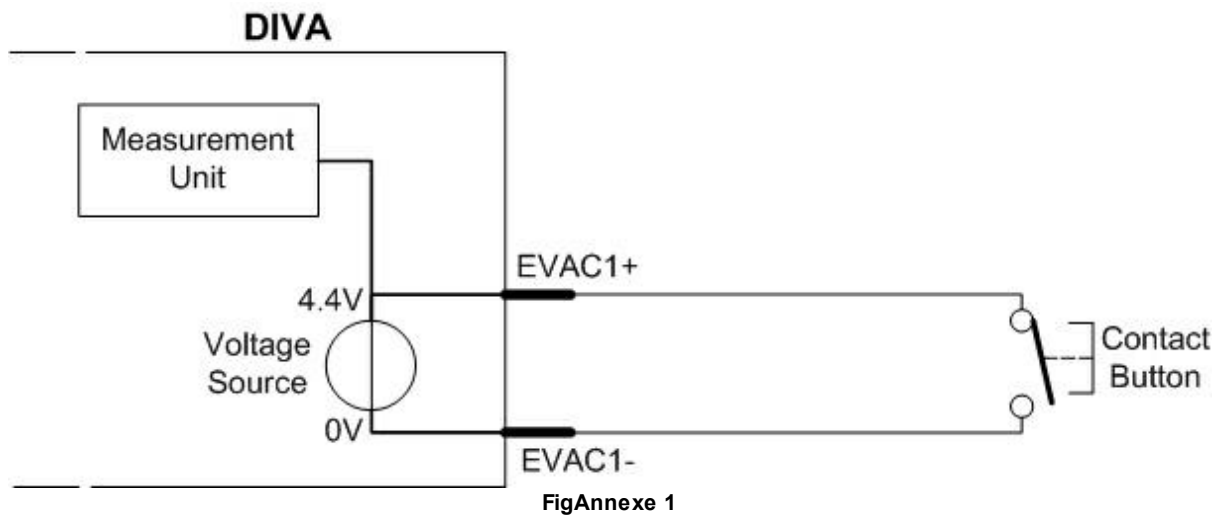
- **Next Event:** Here you can select the event to start after the current one is finished
- **Start Impulse:** Ticking this option allows user to close an output contact (Logic Output channel) in two different manner. Static will close it until the event stop and Pulse will generate a closing pulse whose length can be defined from 50 to 60000 ms.
- **Stop Impulse:** This option is used to create a closing contact pulse when the event is finished. The length of the pulse can be defined from 50 to 60000 ms.
- **ACK Relay:** Here you can set the closing of a Logic Output Channel relay as soon as zones where an event has to be played are freed from higher priority events.
- **Busy Relay:** Here you can specify an Logic Output Channel relay that will be closed as soon as a higher priority event is playing in common zones. To learn more about output relay, please read the How To Use Output Relay.
- **Message:** By using the drop down menu, you can select, in the list of stored message, a message to assign to the event
- **Play Mode:** By ticking continuous, the message will be played until a trigger happen. You can also specify a number of repeat time.
- **Conflict:** You can choose between Cancel All or Coexist
- **Repeat Time:** If continuous not ticked, you can choose a number of time this event will be repeated
- **Pre-define Zone:** Here you can specify the pre-define zone(s) where the message will be played
- **Zone Selection:** Here you can specify the zone(s) where the call will be played
- **OK:** Will accept the current setting and close the window
- **Cancel:** Will annulled the current settings and close the window.

Note: Messages can only be seen if they are a part of the configuration. Reading the message memory of the DIVA does not put messages in the configuration. You'll have to reverse the messages in order to be able to use them in the configuration.

5.2.9 Create a Monitorable Button

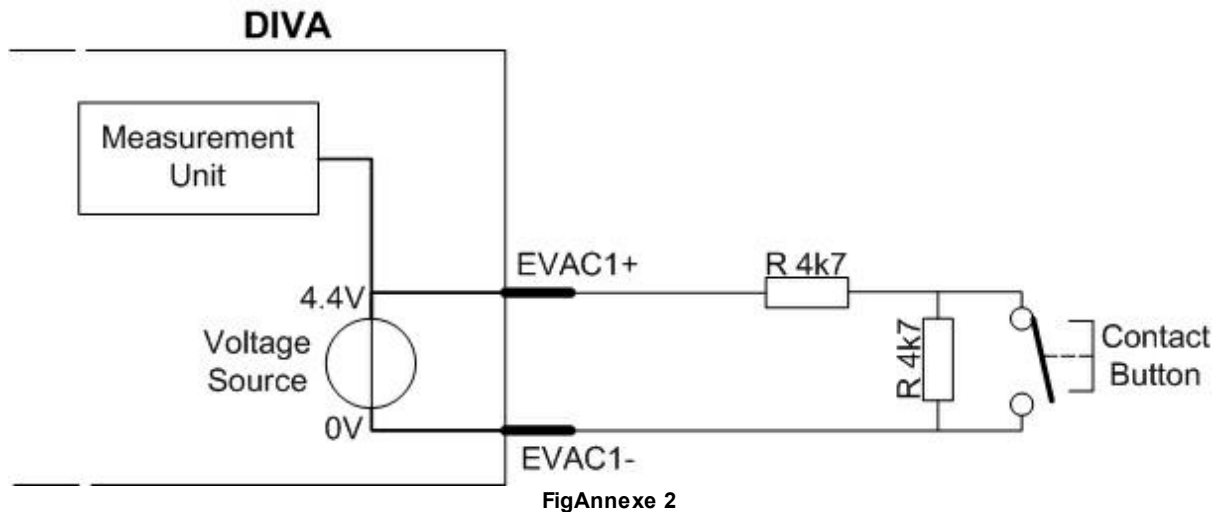
The surveillance of a contact line, a microphone line or speaker line is based on the same measurement. An internal voltage source is applied to the input or output terminal. By measuring this tension, it is possible to know the state of the input or output.

With a normal contact (see picture below), you only will be able to measure two states: Open or Shorten. Shorten (when contact is closed) forces the voltage source to zero.



In this case, the measurement unit can only detect 0V (closed) or 4.4 V (opened).

In order to have different state measurement like open line and short-circuit we need to add a resistor network to the end of the line, see picture below.

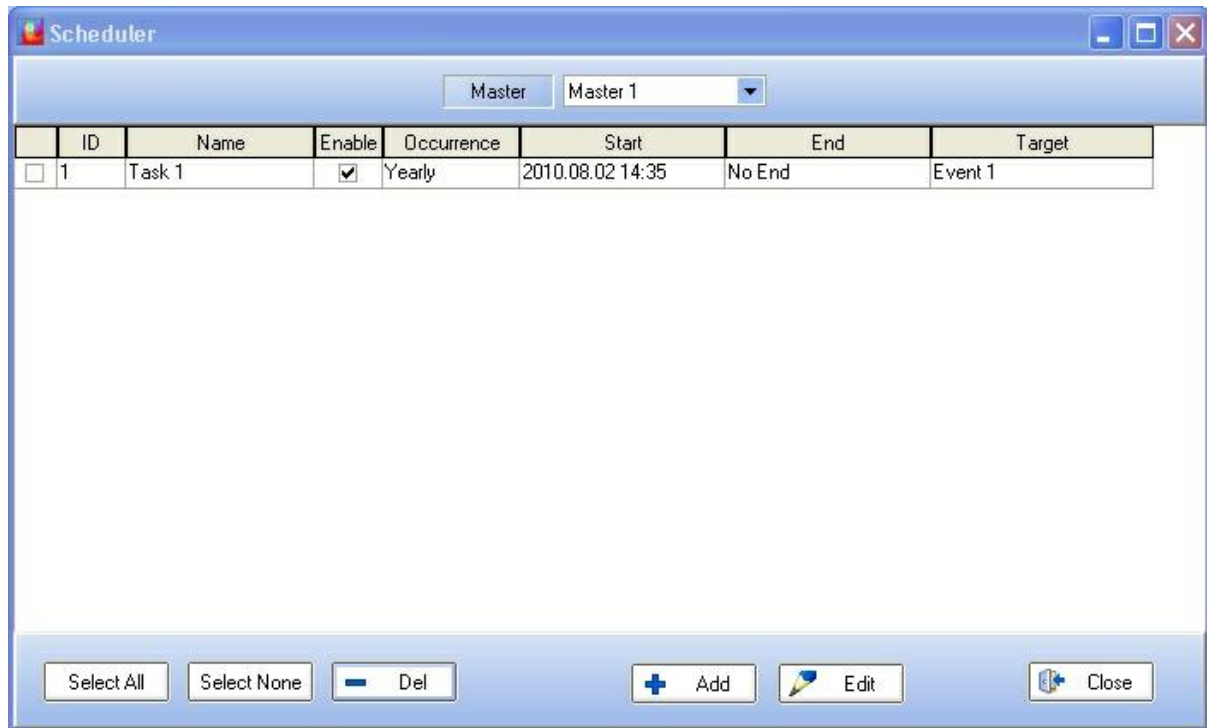


Using the resistor Network, the measurement unit can detect 4 different states: 1.3 V, 2 V, 2.7 V and 4.4 V. The 4 states correspond respectively to Shortcut, Closed Contact, Opened contact and Absent (open line).

According to the FigAnnexe 2, you have a fully monitored line responding to the security norms.

5.2.10 Use Scheduler

To access the Scheduler window, go on the menu View -> Scheduler. The window below should appear.



- **Master:** This indicates the device on which the scheduler task will happen.
- **ID:** Displays the ID number of the task.
- **Name:** Display the scheduler task name. This name can be entered in the scheduler task window.
- **Enable:** Indicates if the task is enable or not (ticked means enable).
- **Occurrence:** Displays the way the repeat mode has been set for the task.
- **Start:** Displays the date and time at which the task starts.
- **End:** Displays the date and time at which the task stops. Note: if the task is a Single task, start time and end time will be the same.
- **Target:** Display which event is affiliated to the task.
- **Select All:** Allows to instantaneously select all the tasks from the list
- **Select None:** Allows to instantaneously deselect task selected from the list
- **Del:** Allows to delete selected task from the list
- **Add:** Allows to add a new task to the scheduler
- **Edit:** Allows to edit one task parameters
- **Close:** Close the scheduler window.

How to set a task:

To add a scheduler task, click on the Add button in the scheduler window. Then the Scheduler Task window will pop up.

❖ General:

- Specify a name for the task. Default name are Scheduler Task X
- Tick the “Enable” option in order to make the task available.

❖ Trigger Event:

- In the trigger event, you will find a list of all events that are existing in the current configuration. You can edit one existing event by selecting it in the list and then click the Edit button
- Select one in the list or create a new event. Once the event is selected, click on the select button to affiliate the event to the task that is created
- Select if it is a Single occurrence task or a Cycle task. For Cycle task, see picture below.

❖ Occurrence:

- You can choose the way the scheduler task will be repeated. The scheduler offers yearly repeated event, monthly, weekly, daily, hourly and minutely. The weekly option offers days of the week activation options, see below.

Scheduler Task

Trigger Event

ID	Name	Priority	Security
1	Event 1	20	False

General

Name: Task 1

Enable: ☒ Enable

Occurrence

☐ Yearly
☐ Monthly
☒ Weekly
☐ Daily
☐ Hourly
☐ Minutely

☐ Sunday ☐ Monday ☐ Tuesday ☐ Wednesday
☐ Thursday ☐ Friday ☐ Saturday

Range

Start

Date: 02.08.2010

Time: 14:35

End

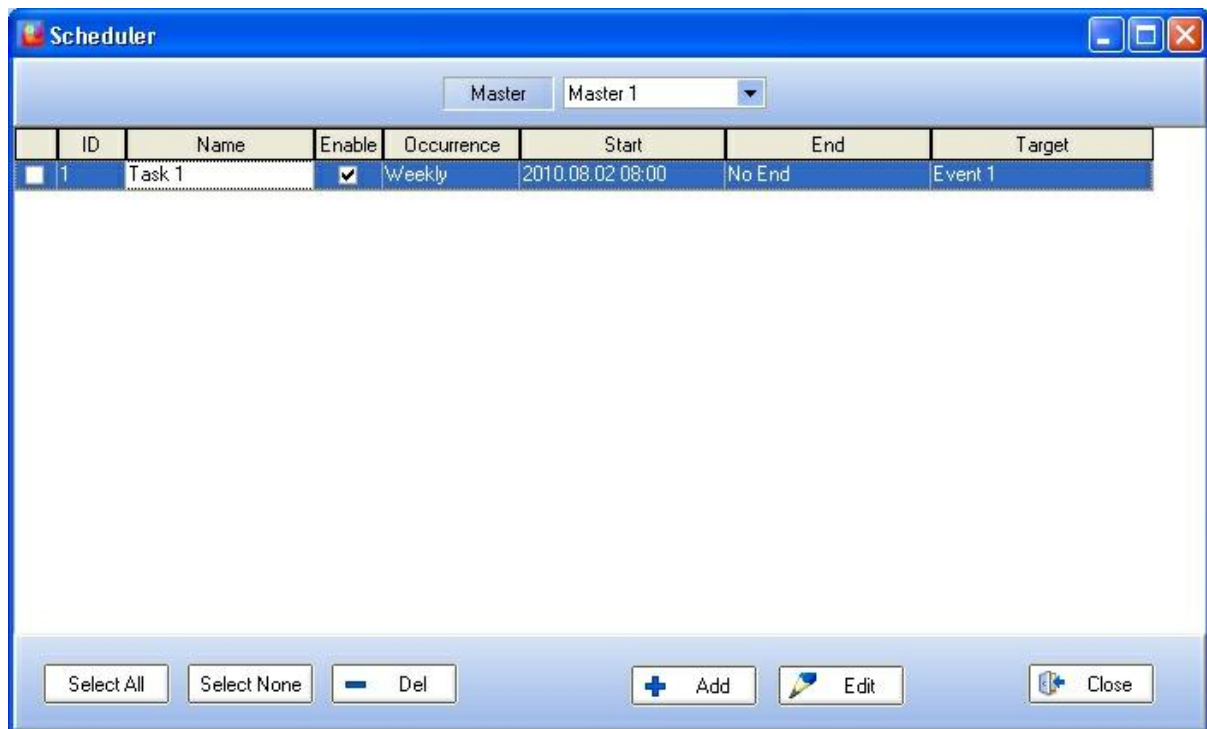
☒ No end
☐ Number of Times: 1 Times
☐ End by Date: 02.08.2010 Time: 14:56

Select New Edit

Event 1

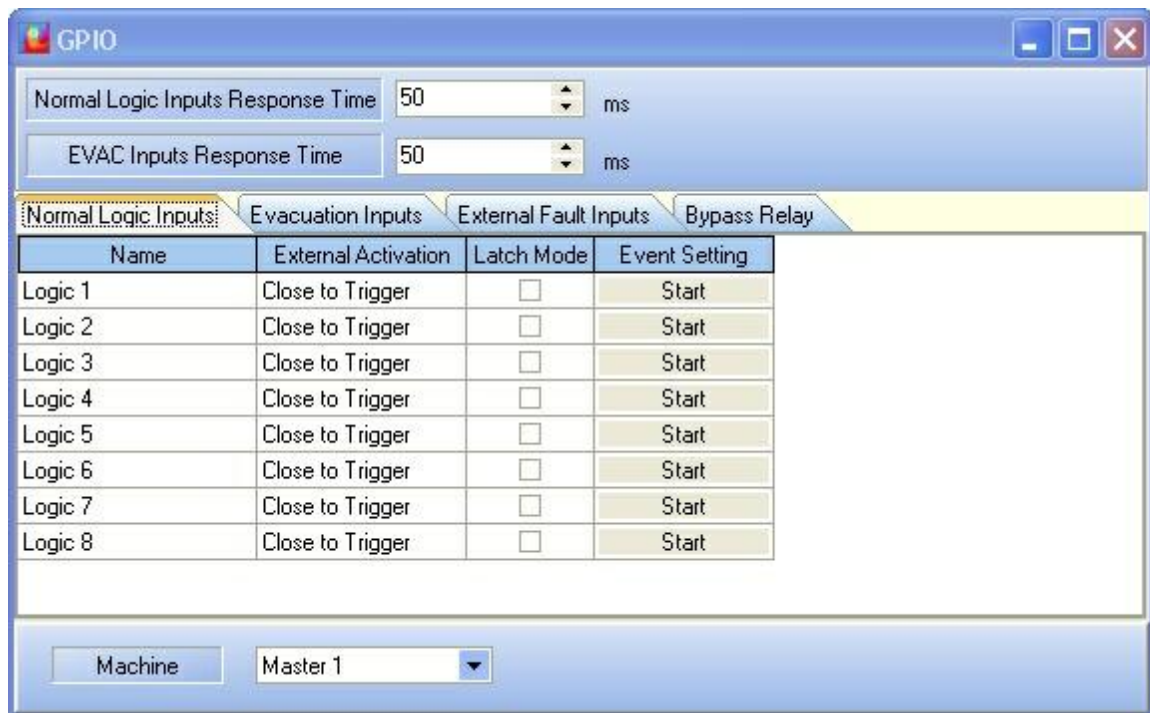
OK Cancel

- Range: here you can specify the date and time for the first occurrence of the scheduler task. You will also specify the way the task will end: no end, end after a certain amount of repeated time or end at a specific date and time.
- To create a scheduler task, follow the next steps:
 - Choose the way the scheduler task will be repeated: every minutes, hour, day, week, month or year. If week, choose the weekday.
 - Set a date and time for the scheduler task.
 - Set the end of the task:
 - No End: task will happen every hour, day, week, month or year from the date and hour selected and will be repeated until the user delete the task.
 - Number of times: task will happen for a certain number of hour, day, week, month or year from the date and hour selected. Example: if set every day, then 3 number of times, the task will happen the first day set and the two next day at the same hour.
 - End by date: task will happen each hour, day, week, month or year for a certain period (can be several hours, days, weeks, etc.). For this option, you will have to specify an end time.
 - Make sure the enable option is ticked.
 - Press OK
 - Your task will be displayed as follow in the scheduler window.



5.2.11 Use Logic Inputs

Logic inputs are a way to start any type of event with an external trigger. They are separated in three different types:



- **Normal Logic Inputs:** The eight normal logical inputs are simple logical inputs with no

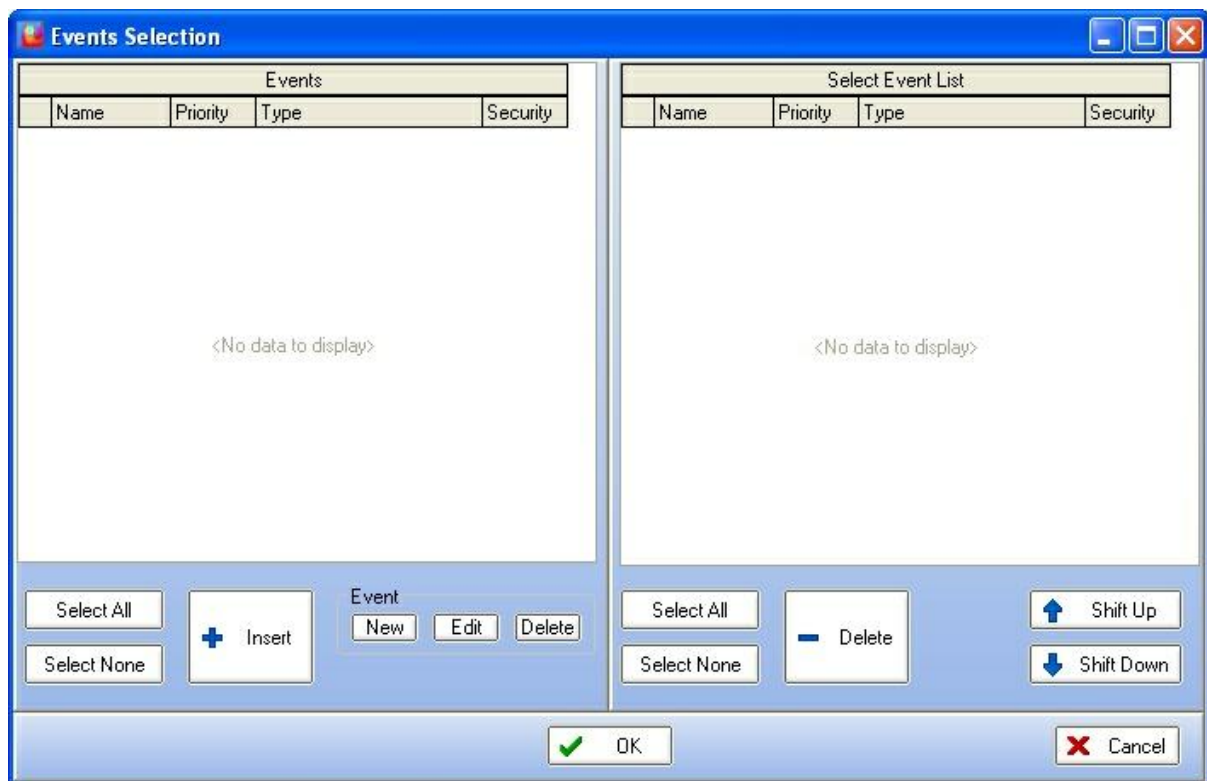
monitoring options.

- **Evacuation Inputs:** The nine evacuation inputs can be used as simple logical inputs as well as monitored logical inputs. Monitoring type are on contact or voltage UGA. In contact monitored mode and using a resistor network, the measurement unit can detect 4 different states: 1.3 V, 2 V, 2.7 V and 4.4 V. The 4 states correspond respectively to Shortcut, Closed Contact, Opened contact and Absent (open line). The voltage UGA monitoring mode is based on polarizing the input with an external 24V source.
- **External Fault Inputs:** External Fault Inputs are used to put DIVA into security mode.

In order to avoid any sensitivity issue like unwanted triggering of input, you can set a response time on either Normal Logic inputs or Evacuation Inputs.

This response time act like an activation delay, it means that the trigger signal should be at least as long as the response time to activate the corresponding logic input. Response time range is from 0ms to 5000ms. The way to configure event for all logic inputs' type is identical. Please read the few next step to know how to associate an event to a logic input:

Click on the "Start" button under "Event Setting". The Events Selection window will be open, see below.



On the left side, you will find the list of existing event. To create a new event, simply click on New under Event. As soon as you click on the New button, the software will ask to choose a event's type, see below.



In order to select an event's type, use the drop-down menu. Then click OK. After you have press OK, you will return to the Events Selection window.

To edit your new event settings, select it by clicking on the right line and then click Edit. Note: don't click in the square selector.

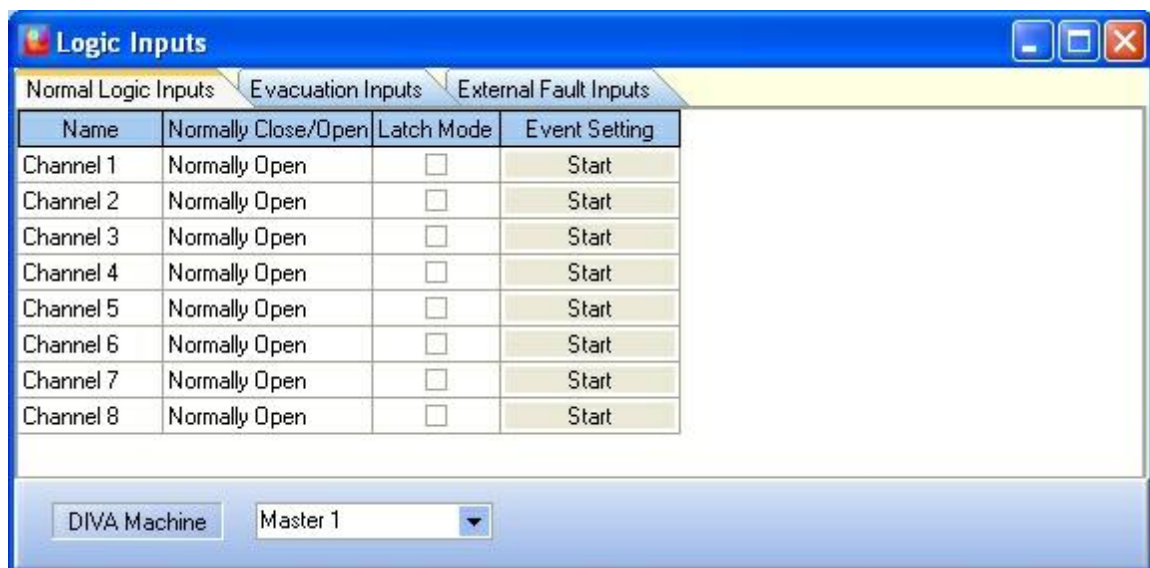
The corresponding event's type window will pop up. After your event settings are complete, click OK.

The last step is to affiliate the event created with the logical input. In order to do so, tick the square selector and click on insert.

Note: you can associate more than one event to an external trigger as well as creating event sequences. To learn more about it, please read [this](#).

5.2.11.1 Normal Logic Inputs

To access the Logic Inputs window, go to the menu View -> Logic Inputs. Then click on the Normal Logic Inputs tab.



- **Name:** Here you can specify a name by simply clicking in the box.
- **Normally Close/Open:** Here you can specify the behaviour of the inputs. Normally closed means that the contact is closed in neutral position and reciprocally normally open means that

the contact is open in neutral position.

- **Latch Mode:** By ticking this option you will set the contact to be in latch mode. It means that you will need on trigger to open/close the contact and one more trigger to get it back to the neutral position.
- **Event Setting:** By clicking start you will be able to associate an event to this input.

5.2.11.2 Evacuation Inputs

Evacuation input have been design to offer monitoring on logical inputs as well as UGA mode, even though they can be used as normal logic inputs, in order to provide an higher security level for external trigger.

Name	Normally Close/Open	Latch Mode	Monitor	Event Setting
Channel 1	Normally Open	☐	☐	Start
Channel 2	Normally Open	☐	☐	Start
Channel 3	Normally Open	☐	☐	Start
Channel 4	Normally Open	☐	☐	Start
Channel 5	Normally Open	☐	☐	Start
Channel 6	Normally Open	☐	☐	Start
Channel 7	Normally Open	☐	☐	Start
Channel 8	Normally Open	☐	☐	Start
Channel 9	Normally Open	☐	☐	Start

- **Name:** Here you can specify a name by simply clicking in the box.
- **Normally Close/Open:** Here you can specify the behaviour of the inputs. Normally closed means that the contact is closed in neutral position and reciprocally normally open means that the contact is open in neutral position.
- **Latch Mode:** By ticking this option you will set the contact to be in latch mode. It means that you will need on trigger to open/close the contact and one more trigger to get it back to the neutral position.
- **Monitor:** By ticking this option in contact or UGA monitoring mode, you will define an input as a monitored logical input.
- **Event Setting:** By clicking start you will be able to associate an event to this input.
- **Monitor Mode:** With the drop down menu, you can choose between contact monitoring mode or UGA mode. Contact monitor mode implies the use of an resistor network on a contact, see [How To Create a Monitorable Button](#). The UGA mode is based on polarizing the input with an external 24VDC source provided by external devices.

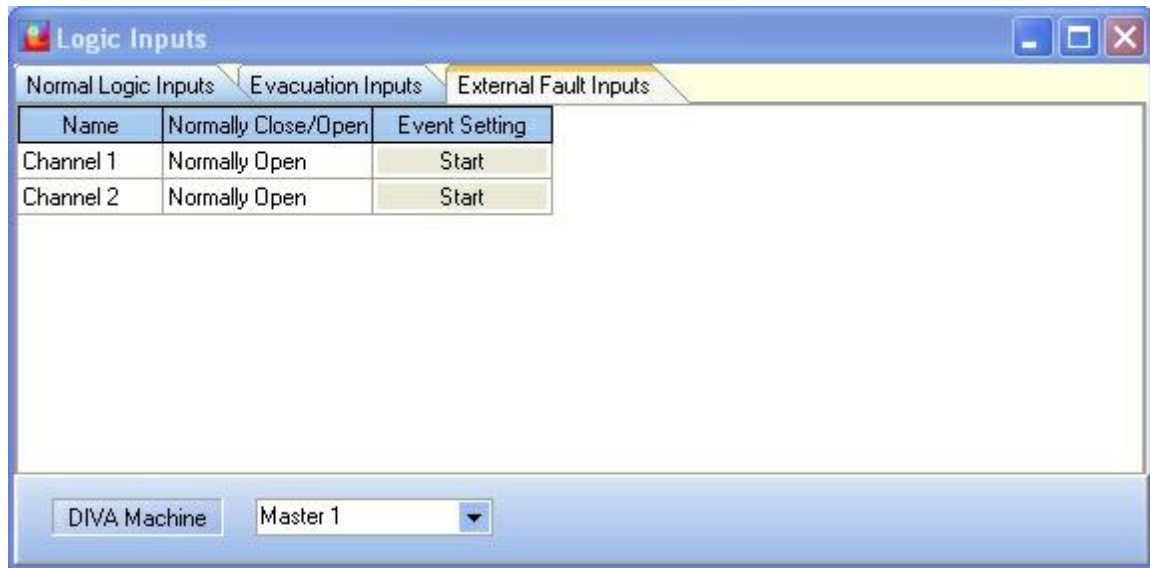
Note: The UGA mode is an alternative way of using contact. It does not offer real monitoring behaviour and does not increase security.

5.2.11.3 External Fault Inputs

As explained before, the External fault Inputs have been implemented in order to offer the possibility to force DIVA to enter his security mode. For more information about security mode, please read [this](#).

The external trigger of those inputs should come from security devices such as security power supply. You can also use those input to force DIVA into the security mode in order to save energy during night.

Like any of the logic inputs, you can associate an event to External Fault Inputs.



- **Name:** Here you can specify a name by simply clicking in the box.
- **Normally Close/Open:** Here you can specify the behaviour of the inputs. Normally closed means that the contact is closed in neutral position and reciprocally normally open means that the contact is open in neutral position.
- **Event Setting:** By clicking start you will be able to associate an event to this input.

5.2.12 Do Phase Evacuation

Using the Evac configuration setup allows you to easily designed phase evacuation or any evacuation scheme. To access the Evac Configuration matrix, please go in the menu View -> Evac Configuration. The Evac configuration window should pop up.

Device	Master 1							
	Evac Logic Input							
	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
- : Master 1								
Zone 1								
Zone 2								
Zone 3								
Zone 4								
Zone 5								
Zone 6								
Zone 7								
Zone 8								

The purpose of the Evac configuration is to use 2 different play message events (Evac and Alarm) and to use them with Evacuation input in order to create phase evacuation.

- **Events:** When using Evac configuration option, you will have to create two dedicated play message events (Evac and Alarm).
- **Edit Evac Event:** allows the creation of the evacuation "play message" event.
- **Edit Alarm Event:** allows the creation of the alarm "play message" event.

Once one of this button is pressed the following event edit window is opened.

Evac Play Message Event

Type: Fire Evac Play Message Priority: 0 (Zero equals highest)

Name: Evac Event Attrib.: ☒ Security ☒ Evacuation

Start Impulse Stop Impulse

☐ Enable

☒ Pulse 50 ms ☐ Static

Device	Logic Output Channel								
	All	1	2	3	4	5	6	7	8
Master	☐	☐	☐	☐	☐	☐	☐	☐	☐

ACK Relay Busy Relay

☐ Enable

Device	Logic Output Channel								
	All	1	2	3	4	5	6	7	8
Master	☐	☐	☐	☐	☐	☐	☐	☐	☐

Conflict ☐ Cancel All ☐ Coexist

Play Mode: ☒ Continuous

Repeat Times: 1

PreChime: Edit

PostChime: Edit

Evac Logic Input Message Edit								
Device	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
Master	...	...	...	...	...	...	...	...

OK Cancel

- **Type:** Display the type of event you are creating.
- **Name:** Here you can specify a name for the event created. Default is Event X.
- **Priority:** Here you can adjust the priority of the event. 20 is the lowest, 0 is the highest.
- **Attrib.:** Here you can specify if this event is a security one or not and if it is an evacuation event or not. See Common Option to learn more about the security option.
- **Start Impulse:** Ticking this option allows user to close an output contact (Logic Output channel)

in two different manner. Static will close it until the event stop and Pulse will generate a closing pulse whose length can be defined from 50 to 60000 ms.

- **Stop Impulse:** This option is used to create a closing contact pulse when the event is finished. The length of the pulse can be defined from 50 to 60000 ms.
- **ACK Relay:** You can specify here an logic output channel that will be closed when the event is active.
- **Busy Relay:** Here you can specify an Logic Output Channel relay that will be closed as soon as a higher priority event is active in one of the pre-define zones.

Set the play message event option to suit your needs.

The bottom part of the Evac Configuration form is dedicated to create the phase evacuation. After having enabled an evacuation input, you have to define in which zones the messages will be played.

- For each evacuation input (CH1 to CH8), select the routing of Evac event and Alarm event by clicking into the boxes, see next picture

The screenshot shows the 'Evac Configuration' window. At the top, there's a 'Device Selection' dropdown set to 'Master 1' and two buttons: 'Edit Evac Event' and 'Edit Alarm Event'. Below this is a table for 'Master 1' configuration. The table has columns for 'Device', 'CH1', 'CH2', 'CH3', 'CH4', 'CH5', 'CH6', 'CH7', and 'CH8'. The 'Device' column lists 'Zone 1' through 'Zone 8'. The 'CH1' column has 'Evac' and 'Alarm' options. The 'CH2' column has 'Alarm' and 'Evac' options. The 'CH3' column has 'Alarm' and a dropdown menu is open showing 'Evac' and 'Alarm' options. The 'CH4' through 'CH8' columns are empty.

Device	Master 1							
	Evac Logic Input							
	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
Zone 1	Evac	Alarm						
Zone 2	Alarm	Evac						
Zone 3		Alarm						
Zone 4								
Zone 5								
Zone 6								
Zone 7								
Zone 8								

- Define the corresponding Evacuation Input activation mode, see chapter "How to Evacuation

Inputs"

Note: only eight of the nine DIVA evacuation input are accessible from the Evac Configuration option. The ninth evacuation input is reserved for evacuation reset.

The next picture shows, as an example, a finished configuration.

The screenshot shows the 'Evac Configuration' window. At the top, there is a 'Device Selection' dropdown set to 'Master 1' and two buttons: 'Edit Evac Event' and 'Edit Alarm Event'. Below this is a table for 'Master 1' with columns for 'Device', 'CH1', 'CH2', 'CH3', 'CH4', 'CH5', 'CH6', 'CH7', and 'CH8'. The table lists 8 zones. Zone 5 is highlighted in blue. The configuration for Zone 5 is as follows:

Device	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
Zone 1	Evac	Alarm						
Zone 2	Alarm	Evac	Alarm					
Zone 3		Alarm	Evac	Alarm				
Zone 4			Alarm	Evac				
Zone 5				Alarm				
Zone 6								
Zone 7								
Zone 8								

The configuration above will act as follow:

- **Evacuation Input 1 (CH1) activated:** The Evac message is played in zone 1, Alert message in zone 2.
- **Evacuation Input 2 (CH2) activated:** If CH1 still active, the Evac message is played in zone 1 and 2, Alert message is played in zone 3.
- **Evacuation Input 3 (CH3) activated:** If CH1 and Ch2 still active, the Evac message is played in zone 1, 2 and 3, Alert message is played in zone 4.
- **Evacuation Input 4 (CH4) activated:** If CH1, CH2 and Ch3 still active, the Evac message is played in zone 1, 2, 3 and 4, Alert message is played in zone 5.

5.2.13 Use Output Relay

In some event windows of DIVA software, you will have the possibility to set an action for output relay and/or to enable busy relay or acknowledgement relay. Referring to the picture below, the upper squares are for output relay activation and the lower squares for acknowledgement and busy relay states.

The screenshot shows two panels in the DIVA software interface. The top panel is titled 'Start Impulse' and 'Stop Impulse'. It has a 'Length' dropdown set to 'Pulse' with a value of '50' ms, and a 'Static' radio button. Below this is a table with columns 'Device' and 'Logic Output Channel' (All, 1, 2, 3, 4, 5, 6, 7, 8). The 'Master' device row has checkboxes for each channel, all of which are currently unchecked. The bottom panel is titled 'ACK Relay' and 'Busy Relay'. It has an 'Enable' checkbox which is unchecked. Below this is a similar table with columns 'Device' and 'Logic Output Channel' (All, 1, 2, 3, 4, 5, 6, 7, 8). The 'Master' device row has checkboxes for each channel, all of which are currently unchecked.

Note: DIVA Master and Slave offer 8 output relay each. Keep in mind that one relay can only rely to one action. Multiple activation of output relay is not possible.

▼ Acknowledge Relay

The purpose of the Acknowledge relay is to indicate to persons that the event is active. Trying to call in a zone where a higher priority event is active will result in a refusal of that call in this zone. The acknowledge relays will keep you aware of that by being not active.

The acknowledge relay can be set in all event setting window, follow the next steps to activate and set an acknowledge relay.

The screenshot shows the 'ACK Relay' panel in the DIVA software interface. It has an 'Enable' checkbox which is unchecked. Below this is a table with columns 'Device' and 'Logic Output Channel' (All, 1, 2, 3, 4, 5, 6, 7, 8). The 'Master' device row has checkboxes for each channel, all of which are currently unchecked.

- Tick the check box in order to enable the acknowledge relay option.
- Select on each device (master and/or slaves) the output channel that will be used as acknowledge relay contact. Note: multiple output channel can be selected for an event.

▼ Busy Relays

The busy relays have been made to inform user that there is already an higher priority event active in at least on zone of the event. The lower priority event won't be able to start in "cancel all" mode and can be started in non-common zone in "coexist" mode.

In order to make it clearer, here is an example.

- Event 1: play message, priority 4, busy relay CH1
- Event 2: play message, priority 1

When Event 2 is active, the output relay CH1 is active. It informs that an higher priority event is active and that Event 1 won't be played or partially be played if it is activated.

The Busy relay can be set in all event setting window, follow the next steps to activate and set an Busy relay.

Device	Logic Output Channel								
	All	1	2	3	4	5	6	7	8
Master	☐	☐	☐	☐	☐	☐	☐	☐	☐

- Tick the check box in order to enable the busy relay option.
- Select on each device (master and/or slaves) the output channel that will be used as busy relay contact. Note: multiple output channel can be selected for an event.

▼ Active at Start Relays

The Active at Start relay, named start impulse, will allow the activation of an output channel when an event is started.

The start impulse relay can be set in all event setting window, follow the next steps to activate and set an start impulse.

- Tick the check box in order to enable the start impulse option.
- Choose between the pulse mode or static mode. Pulse mode will generate a contact pulse for the time set, range from 50ms to 60000ms. Static mode will activate the output contact for the entire duration of the event.
- Select on each device (master and/or slaves) the output channel that will be used as Start Impulse contact. Note: multiple output channels can be selected for an event.

▼ Active at Stop Relays

The Active at Stop relay, named Stop Impulse, will allow to activate an output channel when an event is stopped. The stop impulse relay can be set in all event setting window, follow the next steps to activate and set an Active at Stop relay.

Device	Logic Output Channel								
	All	1	2	3	4	5	6	7	8
Master	☐	☐	☐	☐	☐	☐	☐	☐	☐

- Tick the check box in order to enable the relay.
- Set the contact pulse length, range 50ms to 6000ms.
- Select on each device (master and/or slaves) the output channel that will be used as Start Impulse contact. Note: multiple output channels can be selected for an event.

▼ Use Bypass Relay

The bypass relays are independent of events. The goal of bypass relay is to close/open a relay when some zone(s) are occupied with a type of source.

In order to set a bypass relay, follow the next few steps:

- Go in menu View -> GPIO -> Bypass Relay tab

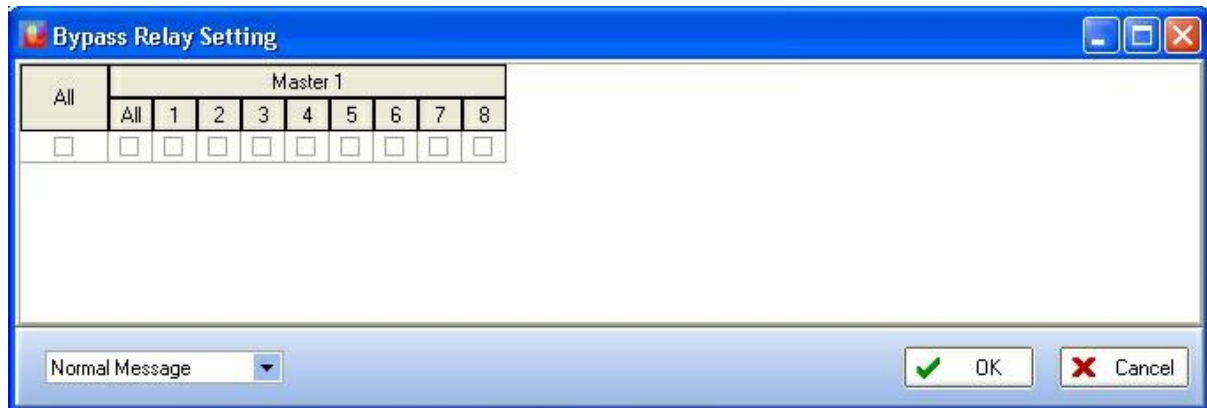
Normal Logic Inputs Response Time: 50 ms
 EVAC Inputs Response Time: 50 ms

Name	Activations	Settings	Link By
Channel 1	Normally Open	Edit	
Channel 2	Normally Open	Edit	
Channel 3	Normally Open	Edit	
Channel 4	Normally Open	Edit	
Channel 5	Normally Open	Edit	
Channel 6	Normally Open	Edit	
Channel 7	Normally Open	Edit	
Channel 8	Normally Open	Edit	

Machine: Master 1

- **Channel 1 to 8:** Correspond to the output channel.
- **Activations:** Specify if the contact will be closed when active or opened when active.
- **Settings:** By clicking on the edit button, you will enter the zone/source matrix.

- **Link by:** By clicking the "a" icon, it will open a display in which you will find the CH X already existing trigger (Bypass, Busy, Acknowledge, Active at start or active at stop relay).
- Click on the Edit button of the channel you want to use as a bypass relay, the following matrix window will pop up, see below:

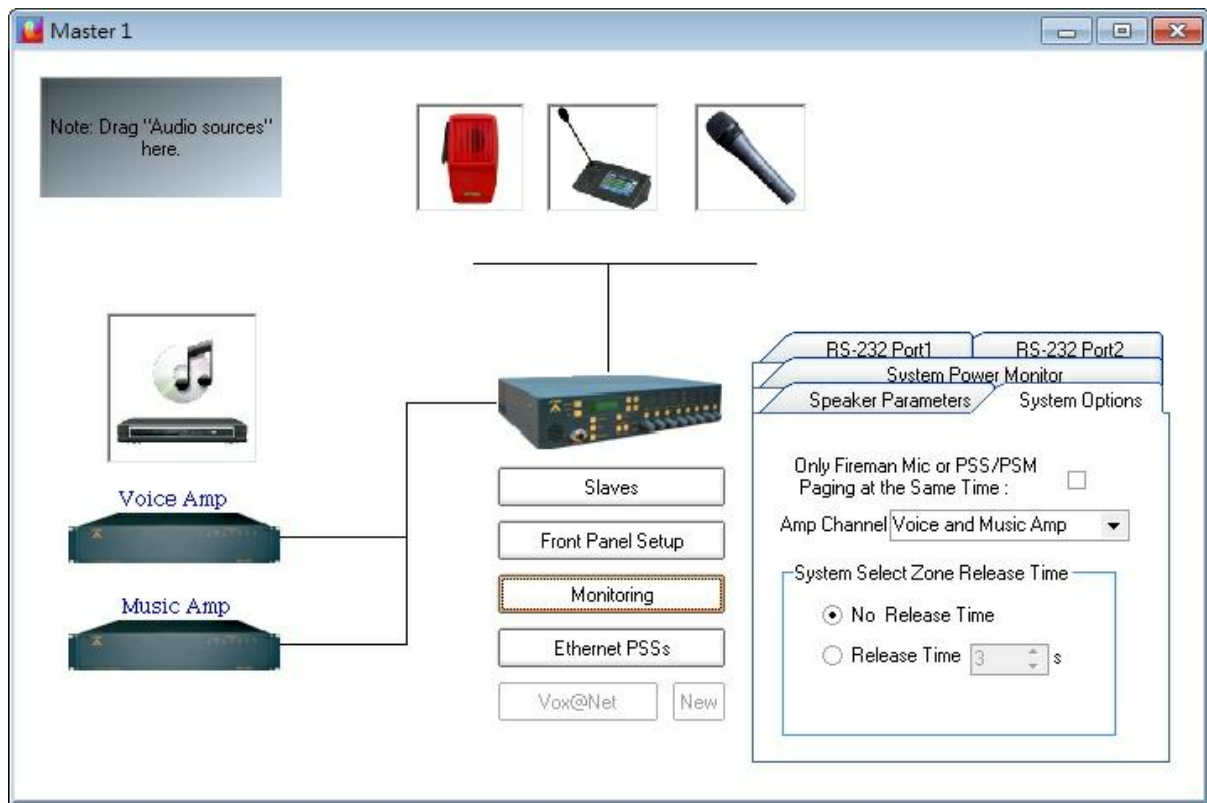


- With the bottom left drop-down menu, you will be able to specify for each source type (Music 1, Music 2, Normal message, Evac message, PSS) the zone in which the source has to be routed to activate the relay.
- Click OK to validate.

Note: for each of the 8 output relays, you can specify multiple zone-source routing for the relay activation.

5.2.14 Use Monitoring

In order to access and activate zones monitoring and/or amplifiers monitoring, click on the monitoring button under DIVA icon in the master window, see below.



The monitoring window is then opened, see below.

Monitoring

Monitor Enable ☒ Enabled

18K/20K Monitor Setting

Frequency (Hz) **20K**

Active Mode **Periodic**

Monitoring period **0 : 1 : 30**

Continuous Mode ☒ Enabled

Active Monitor Period **00:01:30**

1K Monitor Setting

1K Monitor Enable ☐ Enabled

1K Monitor Trigger

Start Time **00:00**

Period **00:01**

Leakage Detection Control

Leakage Searching

Leakage Fault

Reset Leakage

M/S Amplifier Share ☐ Enabled

Monitor Control

HW Observer Mode ☐ Enabled

Current Monitor Target ID **0**

Warning : After test is done, to make sure that the mode is disabled.

Monitor Device **Master 1**

Amplifier Voltage **25V**

Zone Monitoring | 1kHz Monitor | Voice Amp | Music Amp

Zone	ReferenceA (Ohm)	ReferenceB (Ohm)	ReferenceA/B (Ohm)	Connected Source	Tolerance (%)	Measure (Ohm)	(Watt)	Diff (%)
1					15 « ⇄ »			0
2					15 « ⇄ »			0
3					15 « ⇄ »			0
4					15 « ⇄ »			0
5					15 « ⇄ »			0
6					15 « ⇄ »			0
7					15 « ⇄ »			0
8					15 « ⇄ »			0

Get Reference Get All Reference Reset References Reset Monitoring

❖ General options:

- **18K/20K Monitor Setting**
 - **Frequency (Hz):** Here you can choose 18K or 20K.
 - **Active Mode:** There are two options for the monitoring process: "Periodic" and "Only once a day". In order to comply with EN54 standards, the monitoring active mode should only be Periodic. If the "Only once a Day" option is chosen, you have to specify at what time the monitoring process will be activated with the "Active Monitor Period".
 - **Monitoring Period:** If front knob attenuators are in use and if the attenuation value is -16 or -20 dB, the monitoring for accuracy purposes will only occur every Monitoring period. By default, this option is set to 90s. Be careful that for standard compliance, this setting should be manipulated with care and accordance to standard.
 - **Continuous Mode:** If it's enable, it keeps monitoring.
 - **Active Monitor period:** Day time where the monitoring "Only once a day" will take act.
- **1K Monitor Setting**
 - **1K Monitor Enable:** If it's enable, you can check both Amplifier and Monitoring. **Note:** The

1K monitoring will cause high pitch sounds.

- Leakage Detection Control:
 - **M/S Amplifier Share:** If there are more than one devices, this box should be ticked.
- Monitor Control
 - **HW Observer Mode:** If enabled, this options in combination with the "Monitor device" drop-down menu allows to block the monitoring process on one device. This option has been designed only for commissioning and maintenance purposes.

Warning: as soon as maintenance tests are finished, you have to disable the "HW Observer Mode" option.
 - **Current Monitor Target ID:** Displays the current monitored device. In "Periodic" monitoring mode, you should see the display going from Master DIVA to each Slave unit. In "HW Observer Mode", you should only see the device selected with in "Monitor device" drop-down menu.

▼ Zone Monitoring

❖ Zone Monitoring display:

- **Zone:** Displays the zone number.
- **ReferenceA (Ohm):** Displays the value taken as reference for line A of one zone.
- **ReferenceB (Ohm):** Displays the value taken as reference for line B of one zone.
- **RefereneA/B (Ohm):** Displays the value taken as reference for A and B in parallel.
- **Connected Source:** Display the source connected to one zone (Voice Amplifier, Music Amplifier, VO3).
- **Tolerance (%):** Here you can specify the tolerance wherein measurement has to stay before generating a fault state.
- **Measure (Ohm):** Displays the real time measurement of A and B in parallel.
- **Diff (%):** Displays the difference in percent between Reference A/B and Measure.

❖ Zone Monitoring Controls:

- **Get Reference:** This button start the get reference process for one zone at a time
- **Get all Reference:** This button start the get reference process for all zone
- **Reset Reference:** This button allows to reset all reference stored
- **Reset Monitoring:** This button allows to reset the monitoring in case of maintenance
- Procedure to make references for one zone, please follow the next steps:
 - Select a zone by clicking on the corresponding line.
 - Press the "Get Reference" button.
 - Choose a tolerance value.
- Procedure to make references for all zone, please do so:

- Press the "Get All Reference".
- Choose a tolerance value for each zone. **Note:** References should be taken only on zone with speaker line connected.

▼ Amplifier Monitoring

The amplifier monitoring tabs are separated for music and voice amplifier, however controls and displays are identical. This is why only the voice amplifier monitoring will be presented.

❖ Amplifier Monitoring display:

- **Reference unloaded:** Displays the reference taken as open line gain.
- **Reference fully loaded:** Displays the reference taken as charged line gain.
- **Tolerance %:** Here you can specify the value of the tolerance wherein measurement has to stay before generating a fault state.
- **Measure:** Displays the measure of the amplifier current gain.

❖ Amplifier Monitoring Controls:

- **Get Reference:** This button start the get reference process on the amplifier.
- **Reset reference:** This button allows to reset all reference stored.
- **Reset Monitoring:** This button allows to reset the monitoring in case of maintenance.
- The gain value are absolute gain. A gain of 100 correspond to a gain of 40 dB.
- Procedure to take amplifiers references:
 - Press the "Get Reference" button
 - Choose a tolerance value. **Note:** music amp monitoring tab offers exactly the same displays and controls.

5.2.14.1 Explanation About Monitoring Process

The monitoring can be split into 2 different parts: Line monitoring (zones) and amplifier monitoring. Line monitoring is based on impedance measurement and amplifier monitoring on amplifier's gain

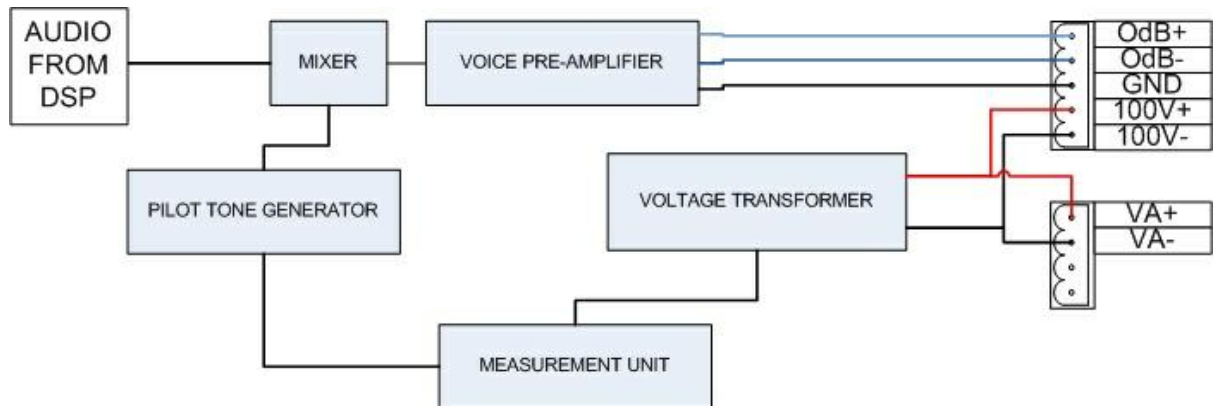
measurement.

❖ Amplifier monitoring:

The amplifier monitoring used a pilot tone at 18kHz or 20kHz that is adapted to pull out 2 Vrms. By measuring the output signal of the amplifier and computing it in the DSP, we can adjust the level of the pilot tone. The adjustment of the pilot tone is related to the amplifier gain and can directly inform us on the gain value.

The gain variation are measured constantly and compared to a gain references value.

Below, you can find a bloc schematics for Voice amplifier channel.



Note: If the amplifier gain is changed after the reference has been taken, the pilot tone level could increase dramatically.

Example: the reference is taken with a gain of 1, the pilot tone will be set to 2Vrms. Then if the amplifier gain is increased to 100, the pilot tone level will be raised to 200Vrms!!!!

To avoid problems, the gain of both Music and Voice amplifier should be set to same value and in preference to the maximum gain value.

There is three different channel for monitoring: Voice amplifier channel, Music amplifier channel and VO3 channel.

VO3 is channel that only generate the pilot tone in case no amplifier channel is in used.

❖ Zone Monitoring:

Zone Monitoring is based on three different reference values: Line A, Line B and Line A/B. Reference for Line A and Line B are Line A and Line B direct impedance measure. Reference Line A/B correspond to the Line A and B in parallel.

- Line A = Z_a
- Line B = Z_b
- Line A/B = $1/((1/Z_a) + (1/Z_b))$

To ensure a high precision measure, for each reference (A, B and B/A) three values are taken. Example: Line A: VO3 channel, Line A: Voice amp channel and Line A: Music amp channel. In the references display, the value will change according to channel routed on each zone.

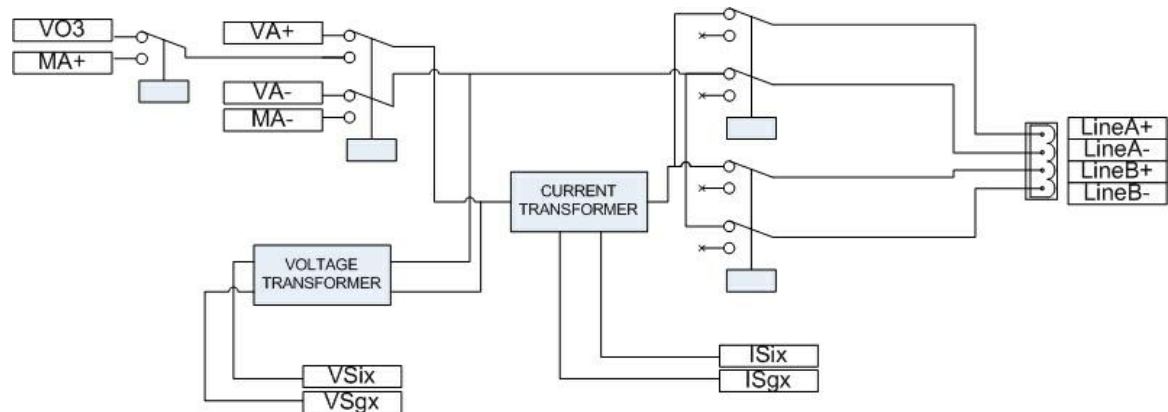
Example: Zone 1 Line A ref.

- VO3: 530 Ohm
- Voice: 545 Ohm
- Music: 540 Ohm

When music is routed to zone 1, the display shows 540 Ohm. As soon as a Voice call is routed on the zone 1, the display will show 545 Ohm. If no music or no voice call is routed on zone 1, the display will show 530 Ohm.

The schematics above explain how the different channel are routed to zone(S) and how the impedance measurement is made. Signal VSix, VSgx, ISix and ISgx are computed into DSP and then compared to reference values.

The real measure is made with A and B in parallel. In the case the measured value differs from the reference value, Line A will be measured independently and compare to the Line A reference and the same process is done for Line B.



5.2.15 Use Presets

The DIVA application allows user to create different preset that can control audio settings (audio levels on each source, hi-pass and low-pass filter settings, compressor-limiter settings). Loading a preset will change the current audio settings; you can adjust audio settings for different situation using several presets.

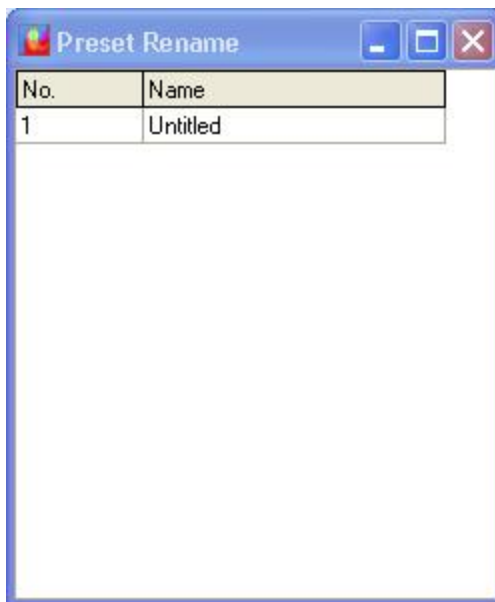
In order to create a preset, please follow the next few steps.

- To create a new preset, click on the Add button in the preset toolbar

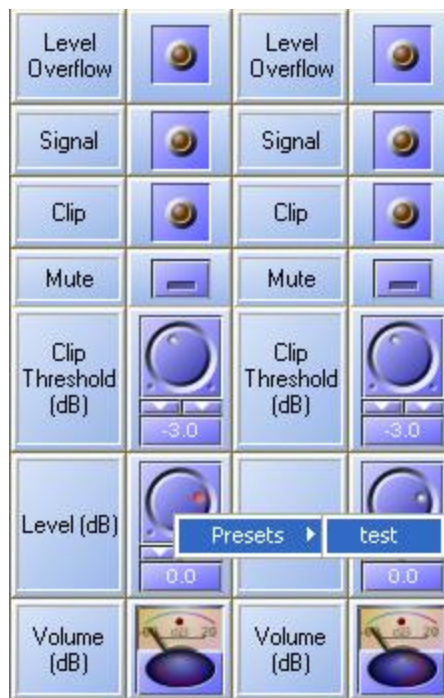


- By default, the preset created is named untitled X. You can rename it by clicking on the Name button in the preset toolbar.





- To relate a setting to a preset, right click on the control and link it to a created preset in the list. The value set when linking a control to a preset will be saved to the preset.



- To load a preset, select the preset from the list in the preset toolbar and click on the load button.





- To modify a setting in the preset, load the preset, change the value and then save the preset with the save button in the preset toolbar.



Presets can be loaded using the load preset event. To learn more about the load preset event, please read this.

Note: a control can be affiliated to several preset, to do it assign the control to all the preset.

5.2.16 Manage Log File

The Log File records all incident and events happening on the DIVA system. DIVA has been designed to record up to 2047 occurrences.

The Log File can be accessed and managed by either the front panel or inside of the software.

❖ From Front Panel

From the front panel, you can read the Log File and clear the Log File.

To read the Log File:

From the FUNCTION MENU:

- Use arrow keys to access the LOG RECORD menu.
- Press OK.
 - Use arrow keys to display different Log Files occurrences. Note: first occurrence displayed is the latest log file
 - occurrence:
 - o Log File occurrence are displayed in the following way:
 - First line, occurrence number and date: "XXXX yy/mm/dd"
 - Second line, time and status (Start, end): "hh:mm:ss Status"
- Press OK.
- Log File entry is displayed in plain text on two lines.
- Press Up arrow or Down Arrow keys to go to the previous/next log file occurrence.
- Press ESC to go back to the Log File menu.

For a complete list of Log File entry, please read the Log File Messages List chapter.

To clear the Log file:

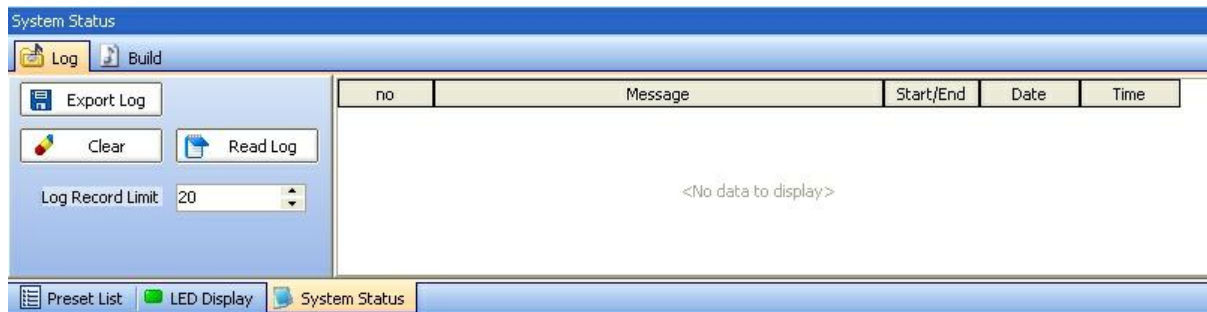
From the FUNCTION MENU:

- Use arrow keys to access the LOG RECORD menu.
- Press OK.
- Use arrow keys to access "Clear Log Files" submenu.

- If you want to delete the Log Files, Press OK.
- You will be asked for validation: "SURE? OK/ESC".
- If Yes, Press OK.
- If No, Press ESC.

❖ From Software

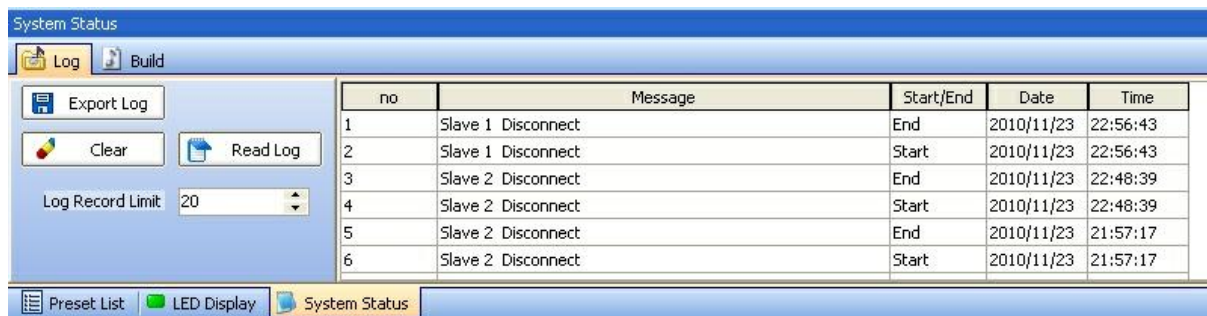
In the software, the log file is accessible either by the menu View -> System Status -> Log or directly by moving the mouse on System Status icon in the Property Control Section bar, see below.



In the Log tab, you will be able to export, read Log File and clear the Log File display.

- **Export Log:** Exports the Log File into .txt file.
- **Clear:** Deletes the entire Log File content.
- **Read log:** Clears the Log File software display.
- **Log Record Limit:** Specify the number of Log file occurrence displayed.

In order to read the log file entries, click on the "Read Log" button. **Note:** to be able to read the log file, you have to be real time connected. If an incident is recorded, it will appear as shown in the following picture.



- **No:** Displays the number of the log file occurrence. No 1 is the youngest.
- **Message:** Displays the log file message corresponding to the record. For more information about Log file messages, please read this.
- **Start/End:** Displays if the incident started or ended.
- **Date:** Displays the date at which the event happened.

- **Time:** Displays the time at which the event happened.

5.3 Operation

❖ Compile

Compiling your current project will inform you in case of configuration errors or warnings. In order to be able to store a configuration into DIVA, you will have to compile your project first.

To compile go in the menu: Operations -> Compile or Click on the Compile icon in the compile toolbar (view picture below) or even type F9.

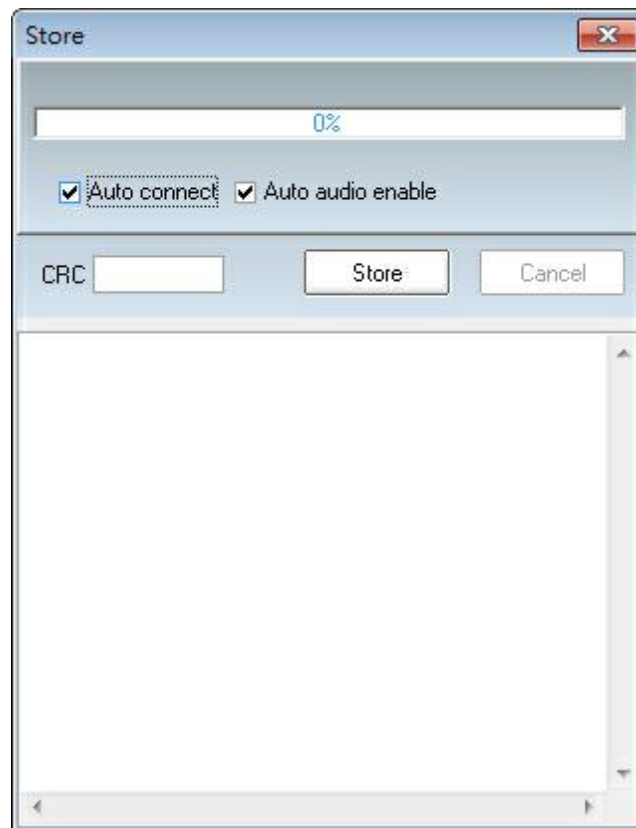


On the Status Bar, you can permanently see the compile status of your project:

- **Compiled:** Means the current state of your project have been checked
- **Not Compiled:** Means that your current project has not been checked

❖ Store

The store command, menu Operations -> Store or the Store shortcut or even F8, open the store window, see below.



To start storing, click on the "Store" button.

A timeline display the status of the process. The different states of the store process are written in the

Store Status Area.

If not already log in, DIVA software will ask you to enter a valid user name and password.

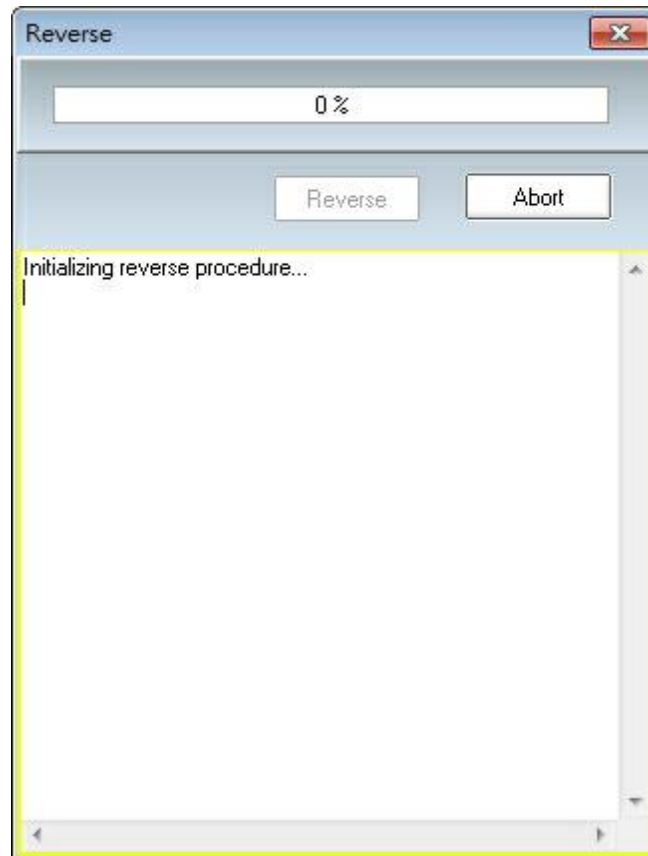
Once the store process is finished, you will be prompt to:

- Connect to DIVA? choose Yes or No
- Enable Audio on DIVA? choose Yes or No

❖ Reverse

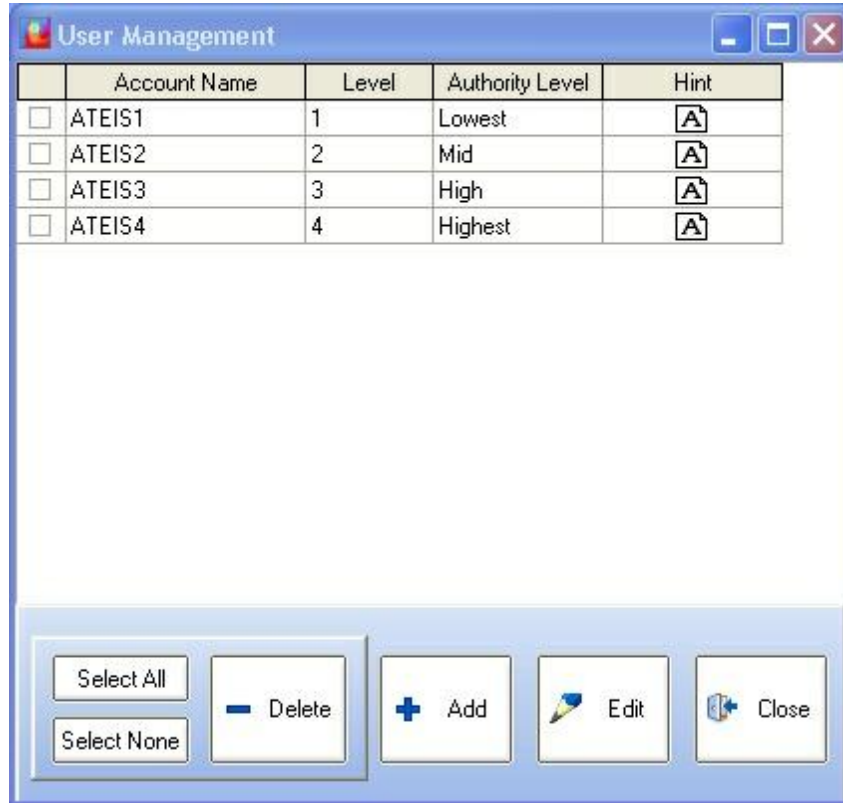
The reverse command allows to download from DIVA to the software the current configuration stored into DIVA.

- To start the reverse process, go to the menu Operations -> Reverse or use the Reverse Shortcut on the compile toolbar
- Click Reverse, you can follow the advancement of the process on the timeline display The reverse window will be open, see below.



5.4 User Management

To access the user management window, go on the [menu User](#) -> User Management.



The picture above shows the main page of the user manager. In this page you will be able to add new user account, delete account and modify account settings.

The List below describes the different displays:

- **Account Name:** Displays the account name.
- **Level:** Displays the corresponding user account level.
- **Authority Level:** Displays in the user account authorization level.
- **Hint:** By clicking on the Hint button on user account, it will display in plain text the right and restriction for the account.

The list below explains how the button works:

- **Add:** Allows to add new user account.
- **Edit:** Allows to edit existing account parameters.
- **Select All:** Can instantaneously select all the existing account.
- **Select none:** Instantaneously unselect the previously selected account.
- **Delete:** Allows to delete accounts.
- **Close:** Closes the User Management window.

Note: by default, four user accounts are created corresponding to the four user level existing in DIVA application.

▼ **Add User Account**

To add a new user account, simply click on the add button. A New Account pop-up window like the one below will appear.



The dialog box is titled "New Account" and has a blue header bar with standard window controls. The main area is light blue. It contains the text "Please enter user account name" followed by a text input field. Below this, it says "Press Next to continue". At the bottom right, there are two buttons: "Next" and "Cancel".

- Enter the user name for the new account.
- Click next.



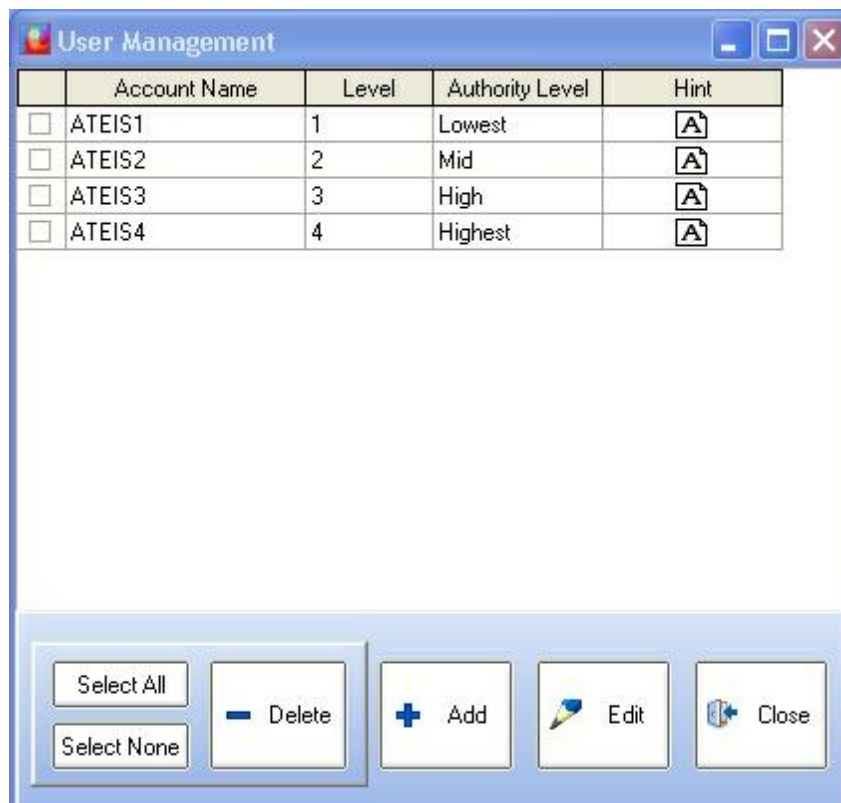
The dialog box is titled "New Account" and has a blue header bar with standard window controls. The main area is light blue. It contains the text "Please enter account password" followed by a text input field. Below this, it says "Please enter again" followed by another text input field. Below these fields, it says "Press Next to continue" and "Press Back to go back to previous step". At the bottom, there are three buttons: "Back", "Next", and "Cancel".

- Enter a password for the account created.
- Confirm password.
- Click Next to continue the process of creating an account.
- Click Back to go back to the previous step.



- Select an Level for this user account, explanation on user level can be found here.
- Click Finish to finish the process.
- Click Back to go back to the previous step.

▼ **Delete User account**



- Select an account in the list of the User Management by ticking the corresponding check box.
- Click on delete.
- it will prompt you "Delete User account?", click OK to delete or Cancel to stop the delete

process.

▼ Explanation on User Level

In order to comply to the European standard EN 54-16, the user level have been set as described:

- Level 1 is the lowest level.
 - Level 1 has the right to use real-time software control (music level, filters and PEQ), real-time front panel control (music level, speaker level) and indicators.
 - Level 1 is always accessible without password.
 - Can do reverse procedure and connect from software.
- Level 2 is defined to be for person having a specific responsibility for safety.
 - Level 2 has all right, except:
 - Storing config + messages
 - Change Ethernet settings
 - To enter level 2, a password is needed.
- Level 3 is for specific maintenance operator and trained persons. Level 3 has all the right of level 2.
 - o Store a new configuration file
 - Manage messages
 - Maintenance operation
 - To enter level 3, a password is needed.
- Level 4 is for authorized by the manufacturer to either repair the unit and/or alter its firmware. Level 4 has all
 - the level 3 rights.
 - Update firmware
 - Repair
 - To enter level 4, a password is needed.

5.4.1 Enter Password

For process like storing and updating, you will need a username and a password, see [How To Use User Management](#).

There are two different way of connecting to your account, from front panel or from software.

- From front panel:

When trying to attempt protected operations, you will have to enter you user name and your password.

- Use the arrow keys to select the right letter or number.

- click OK.
- enter the next letter or number repeating the same procedure
- Once you have enter the right user name, press once the down arrow key to find "APL". Press OK, this will validate you entry.
- DIVA will ask to enter your password, repeat the same procedure to enter password.

- From software:

You will be automatically login after first store, update, network options change, ethernet settings change.

Effectively, DIVA software will ask you to enter a valid user name and password and will remember your username and password until you exit or logout of the current configuration file.

To log out, go to the menu User -> Logout.

Default User Name and Password are:

- ATEIS4 and ATEIS4 (highest level)
- ATEIS3 and ATEIS3
- ATEIS2 and ATEIS2
- ATEIS1 and ATEIS1 (lowest level)

Note1: Username and password entry are not case sensitive, they are always filled in capital letters.

Note2: In order to have to highest level control, please use the ATEIS4 default account.

Note3: Configuration won't be stored if no level 4 account exist.

5.5 Device Management

5.5.1 Search and Settings

5.5.1.1 Set Computer Network Parameters

Before attempting to connect to a DIVA through TCP/IP, make sure that your computer Ethernet settings are corresponding to the one in DIVA. You have two possibilities to make them compatible, either change manually [change the DIVA Ethernet settings](#) or adapt your computer Ethernet settings.

DIVA's default ethernet settings:

IP address: 192.168.100.100

Subnet Mask: 255.255.255.0

Gateway: 192.168.100.1

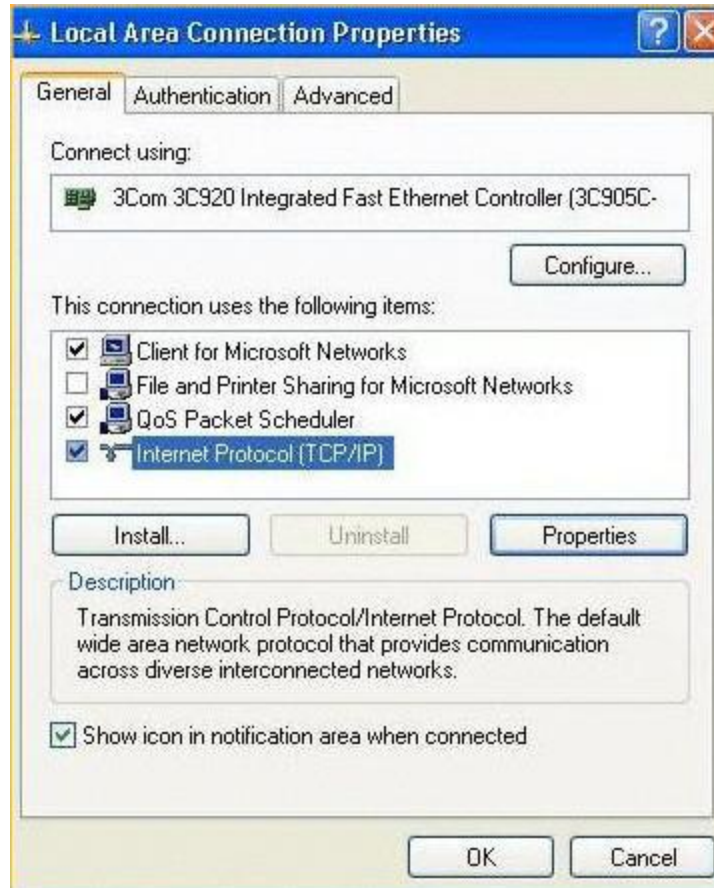
To check and/or modify your computer network settings, follow the next steps:

This step by step procedure is only accurate for Windows XP.

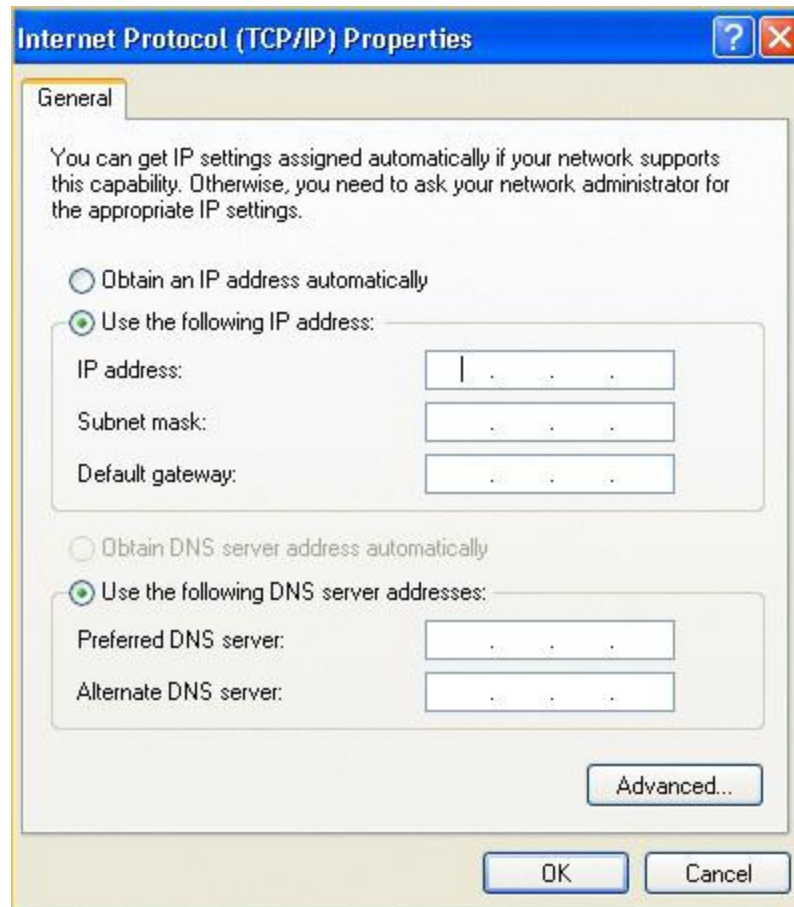
- From Start, go to Settings, then Control Panel.
- From the Control Panel, double click Network Connections icon.

- If you have created a Local Area Connection and want to modify it, right click the icon, highlight Properties.

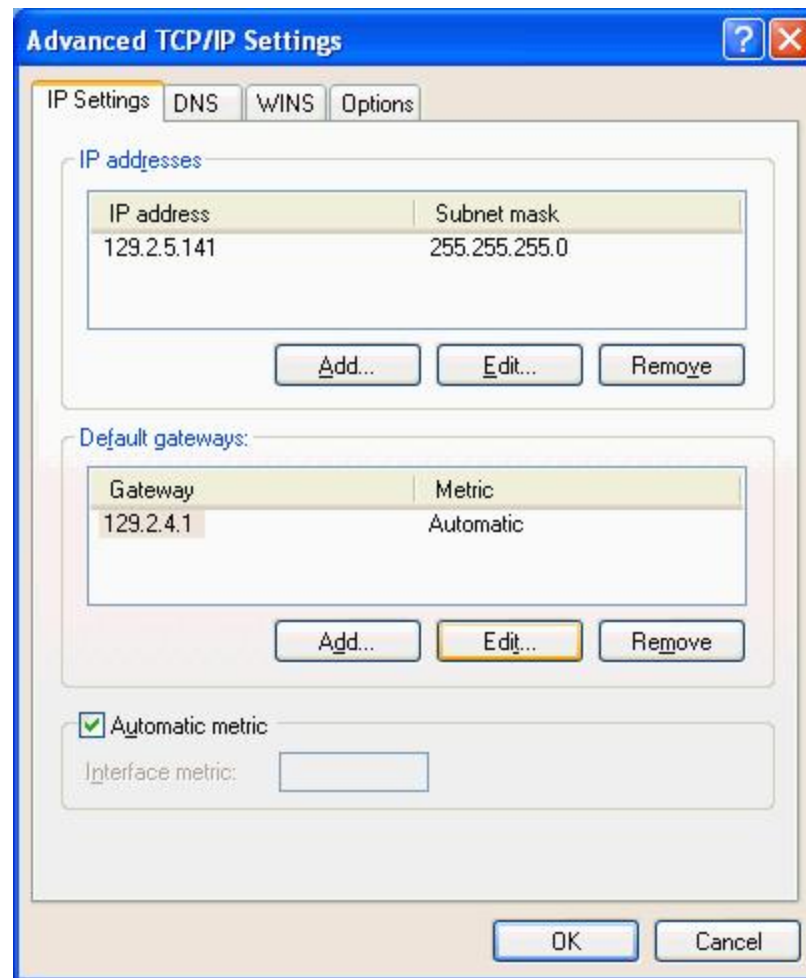
Note: choose the Network connection/card you'll use.



- Highlight Internet Protocol (TCP/IP) and then click on properties. It will display the following Internet Protocol (TCP/IP) Properties dialog box:



- Select "Use the following IP Address" and enter values for IP address, Subnet Mask, Gateway. If you are not sure what settings you should apply, please ask your network administrator.
- Select "Obtain DNS server address automatically", this would work most of the time. In windows for one network connection/card, you can specify several IP addresses.
- In the Internet Protocol (TCP/IP) Properties dialog box, click on "advanced".



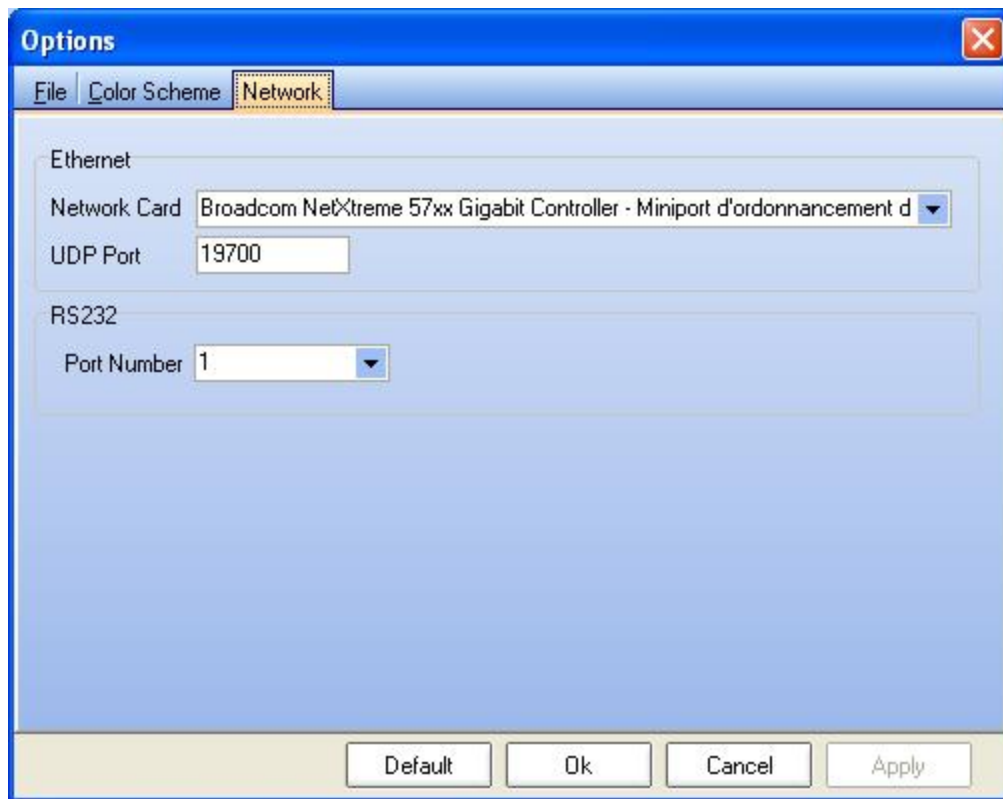
- Under IP address, click the Add button.
- Enter the additional IP address and Subnet Mask.

For more information about IP addressing, you can read the following article: [IP addressing](#) on Wikipedia.

5.5.1.2 Configure Network Options

In order to be able to communicate with DIVA master units, you have to set your network parameters.

In the Network options page, you can specify your network card, the UDP port value as well as the RS232 port number.

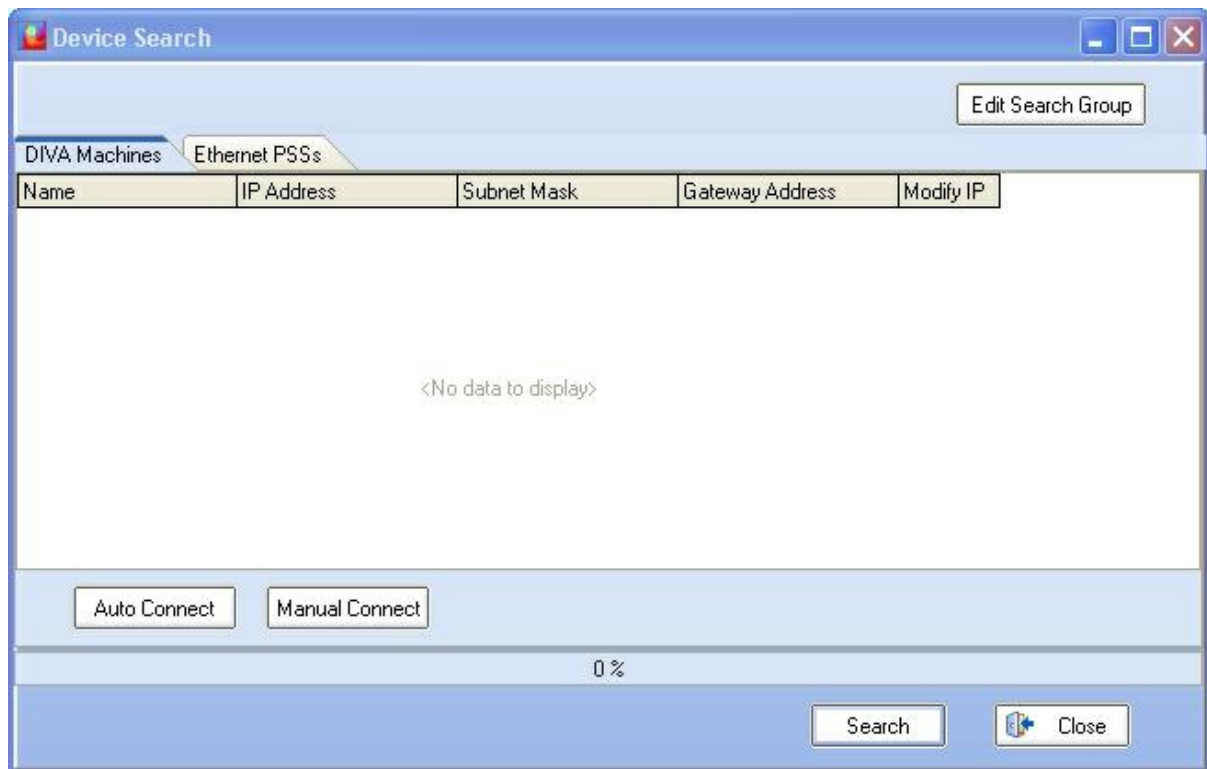


After all the network options have been set, please refer to the [How To Set IP Address](#) paragraph.

Note: changing the UDP port value should be done only with extreme care. Wrong settings could make the system unavailable on the network. It is highly recommended to use the default UDP port setting.

5.5.1.3 Search Device

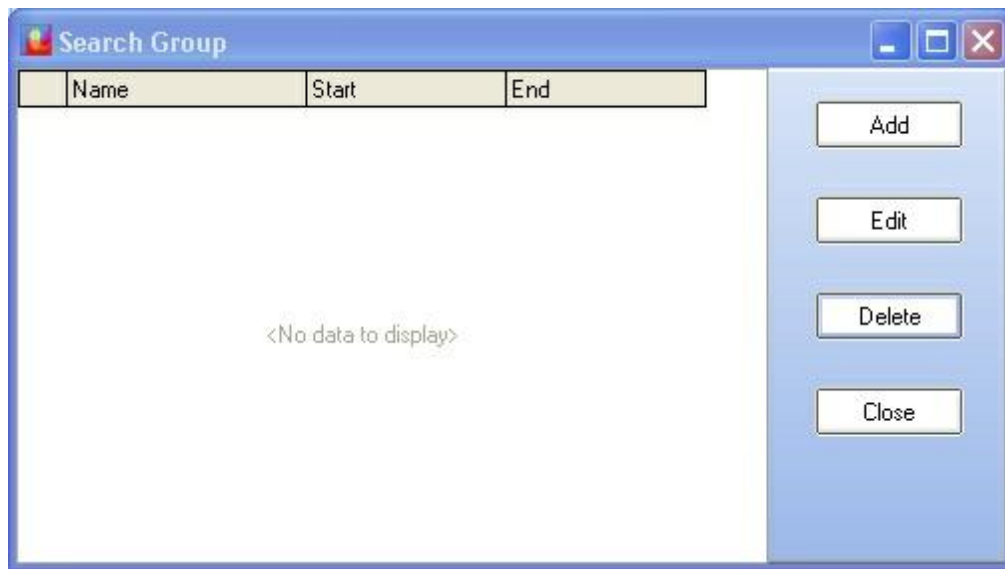
To perform a device search, go to the menu Tools -> Device Search. The Device search window will open, see below.



Buttons explanation:

- **Edit Search Group:** Allows to define IP addresses group in which to perform the search process
- **TABs:** You have access to two different search tabs, one to search for master DIVA unit and one to search for Ethernet PSS devices.
- **Search:** Starts the search process. A progression bar indicates when the search is finished
- **Auto Connect:** Allows the connection to a master DIVA that have been found. Select a master in the list by just clicking on the corresponding line.
Note: attention do not select Enable DHCP when clicking on the line, it could cause connection problem.
- **Manual Connect:** Allows to quickly connect to a known master DIVA IP without doing the search process
- **Close:** Closes the Device Search window.

Before starting to search for devices connected to an IP network, search group have to be defined. Please follow the next few steps:



- Click on the Add button, the Edit Search Group window appears



- Enter a name for the group
- Enter an IP addresses range, enter the start address and the end address
- Click OK

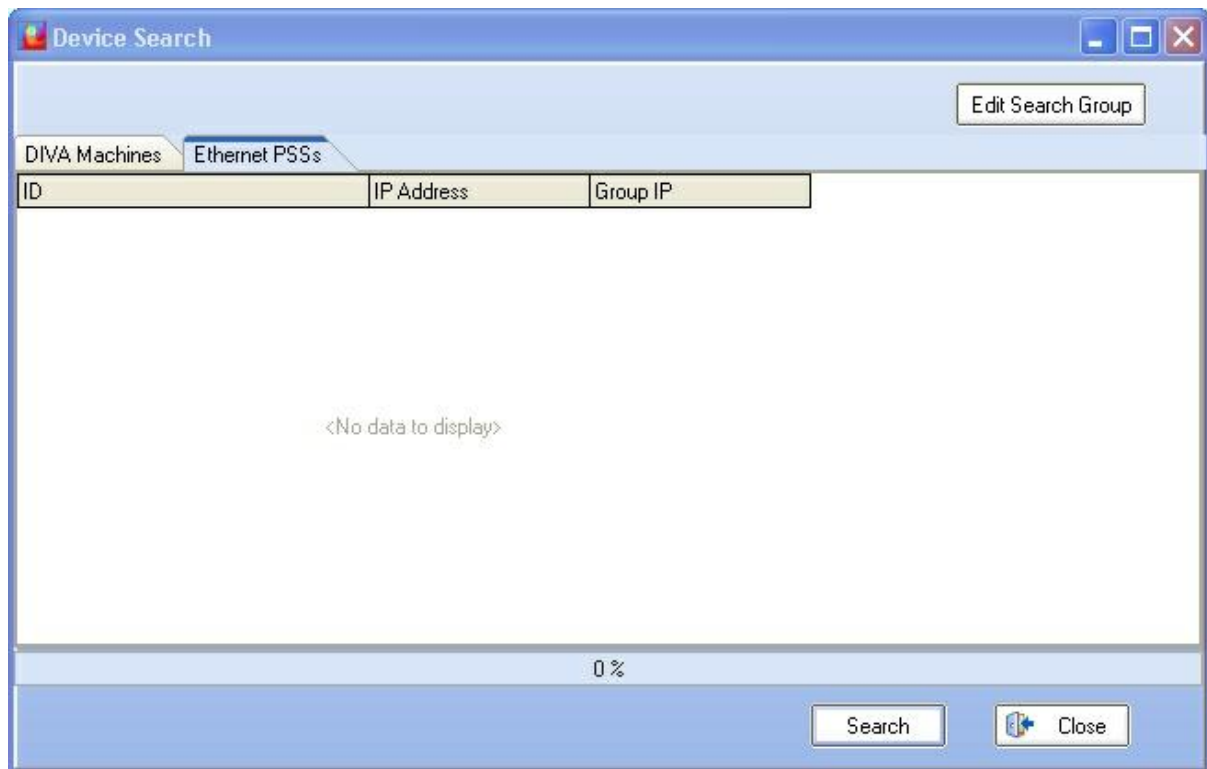
In the Search Group window, you can manage groups by deleting them or edit them.

To delete or edit one group, tick the corresponding check box and click on either the Delete button or the Edit button.

- Click on the Search button to start the search process.
- Click on the corresponding device line.
- Click on the Auto Connect button. A window pop up indicates the connection status.

You can also manually enter the DIVA IP address by click on the Manual Connect button. This avoids using the search process if the IP address of the device is known.

To search the network for Ethernet PSS devices, go on the Ethernet PSS tab.



Once an Ethernet PSS will be found, you will be able to use it in the configuration, see How to [Use Ethernet PSS](#).

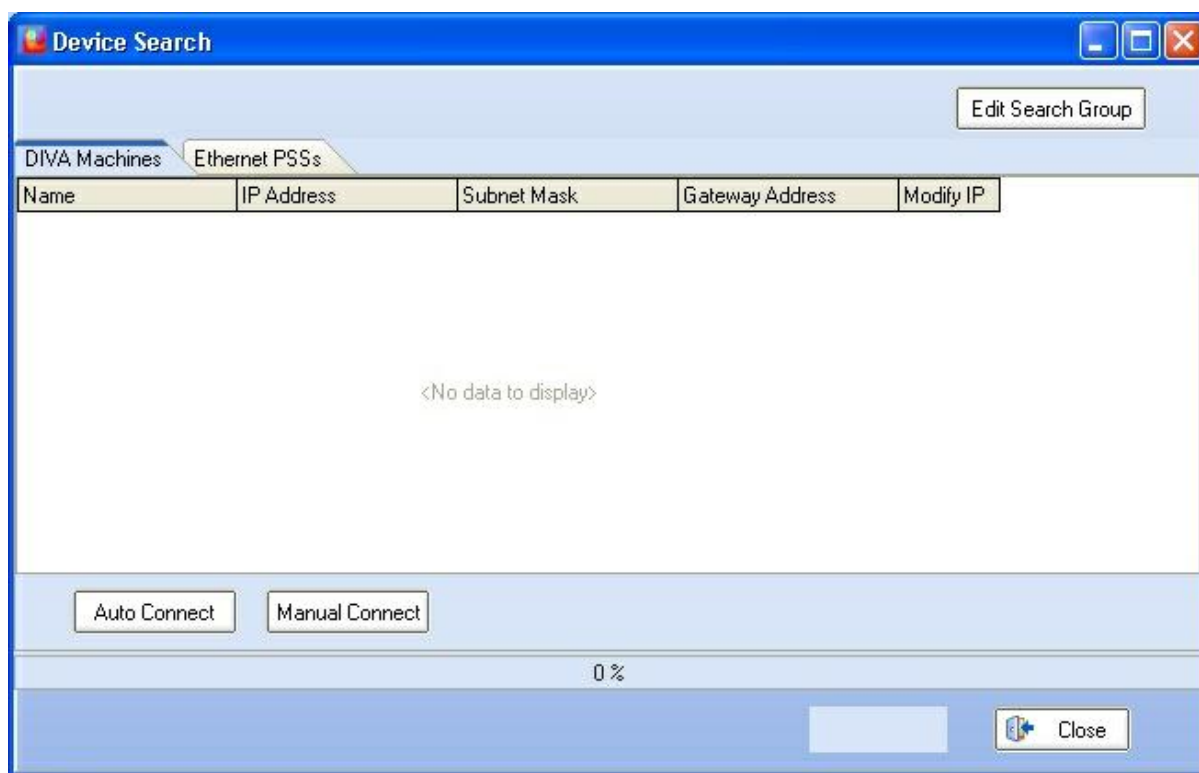
5.5.1.4 IP Address

From the front panel of DIVA, you can change the address from the LCD menu display. In order to do this, please read [this](#).

DIVA's default IP address is 192.168.100.100

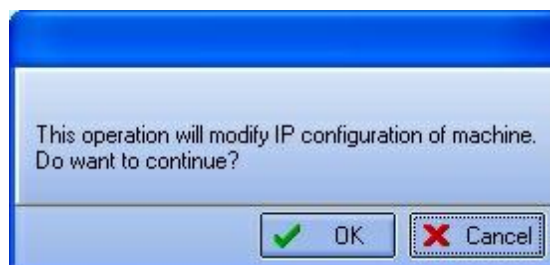
IP, Submask and gateway address can also be changed from the software by going in the device search menu:

Tools -> Device Search. Note: you should be connected to the DIVA unit to be able to operate Ethernet setting changes.



To modify the IP settings of the device, please follow the next steps:

- Click on the corresponding device Modify button.
- It prompts you either if you want to continue or to cancel the modifying IP process.



- Click OK, the Modify Device IP window appears



- In this window you can enable DHCP by ticking the corresponding check box
- Enter the IP address value
- Enter the Subnet Mask value
- Enter the Gateway value
- Click OK
- If not already logged in, it will prompt you to enter an username and password
- System will reboot automatically

Note: you have to keep in mind that setting TCP/IP parameters not related to the one set for your network card, could lead to communication problems.

5.5.2 Verify Diva Versions

Before checking the DIVAs firmware versions, you should connect to the machine trough TCP/IP, see [How to Search Device](#) chapter.

In order to verify that the current software correspond to the DIVAs' units firmware, please follow the next steps:

- Go in the menu "Help"
- choose "Version"

Then the following window should pop up:

	Compatible Version	Current Version	CPLD
Software	2.0.0.17	2.0.0.17	
Firmware	2.0.17		
FPGA			
Net Card			
Slave ID 01	1.0.8		
Slave ID 02	1.0.8		
Slave ID 03	1.0.8		
Slave ID 04	1.0.8		
Slave ID 05	1.0.8		
Slave ID 06	1.0.8		
Slave ID 07	1.0.8		
Slave ID 08	1.0.8		
Slave ID 09	1.0.8		
Slave ID 10	1.0.8		
Slave ID 11	1.0.8		
Slave ID 12	1.0.8		
Slave ID 13	1.0.8		
Slave ID 14	1.0.8		
Slave ID 15	1.0.8		

Read Close

- Click the "Read" button

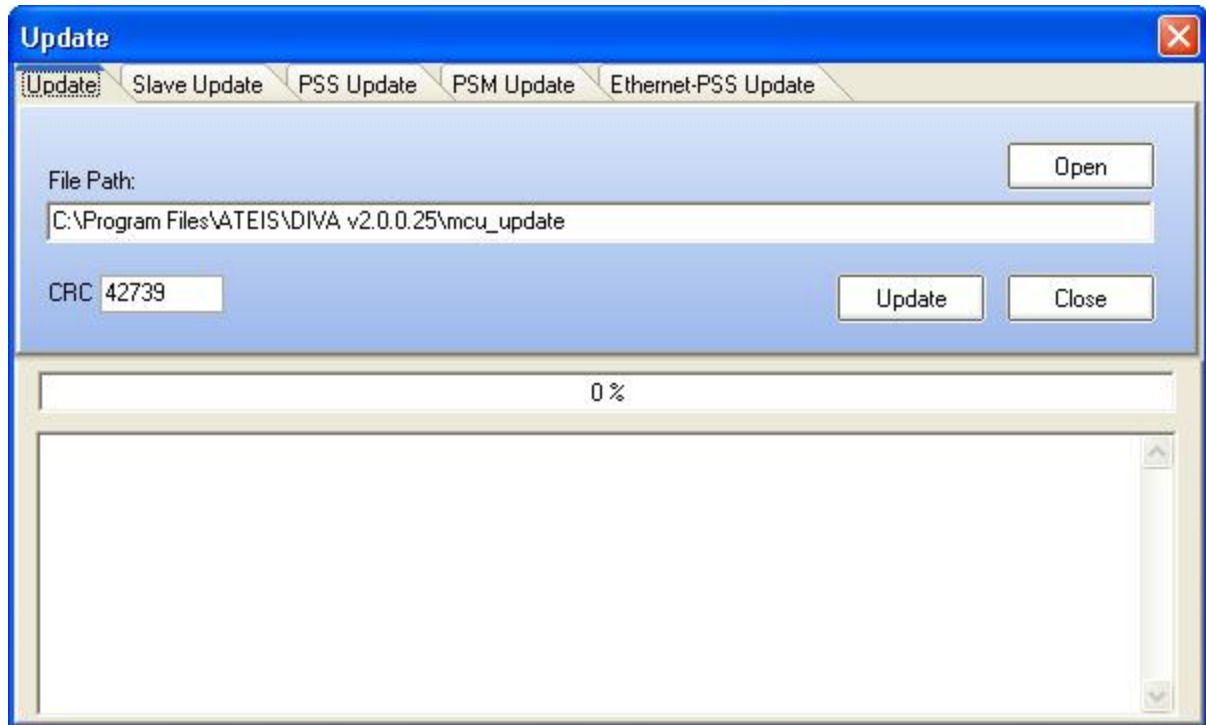
The "Compatible Version" displays shows the firmware version that will be working with the application software version currently installed. "Current Version" displays shows the current DIVA units firmware version.

If one unit is in a incompatible version, the version number will be red highlighted. In that case, an update has to be done.

5.5.3 Update

The update command allow user to upgrade the DIVA internal software to the version delivered with the Windows based software. This is one of the first things to do when starting a new project or using a DIVA unit for the first time. This could really save time and avoid communication and store problem.

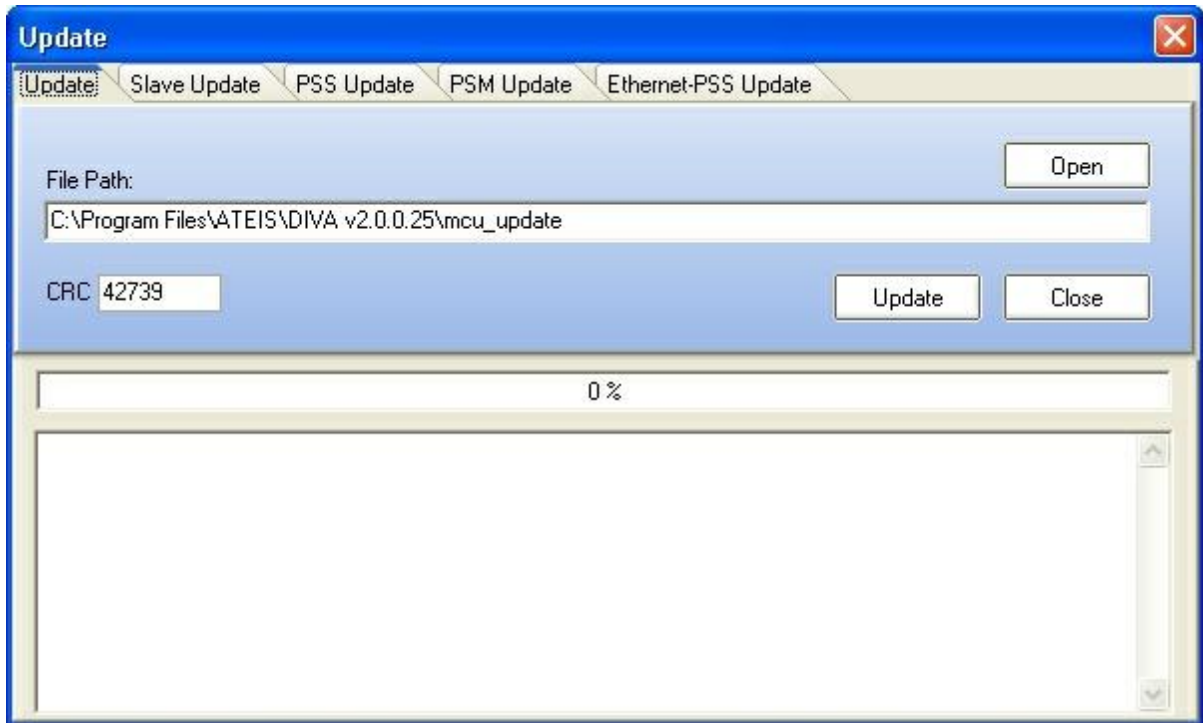
To activate this command, go the menu: Tools -> Update. The Update window will pop up:



On this window, you will find 4 different tab which correspond to 4 different update process:

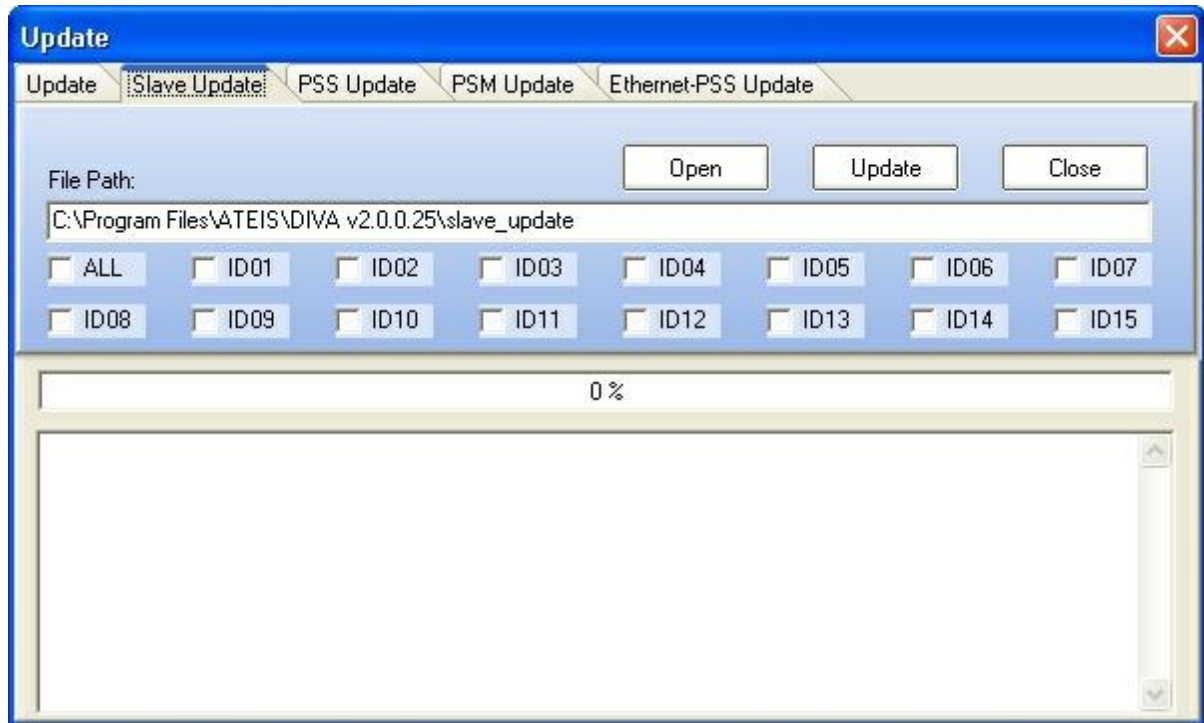
- **UPDATE:** Allows the update of the DIVA master unit.
- **Slave update:** Allows the update of all slave units in the system.
- **PSS Update:** Allows the update of the PSS console.
- **PSM Update:** Allows the update of the PSM/CD16 microphone consoles.
- **Ethernet-PSS Update:** Allows the update of all the Ethernet PSS found in the network. To perform update you need to have the user level 4 rights. Once clicked on the update button, you will be prompt to enter an username and password if not already logged in.

5.5.3.1 Update Master Unit



- **Open:** Here you can specify the path of the MCU update file. By default, the path specified correspond to the software release version.
- **CRC:** Displays the CRC check code corresponding to the firmware. This CRC code can be compared to the one that can be read from the front panel.
- **Update:** Will start the update process.
- **Close:** Closes the window.
- **Timeline display:** Shows the update process progression.
- **General Display:** Displays the update information.

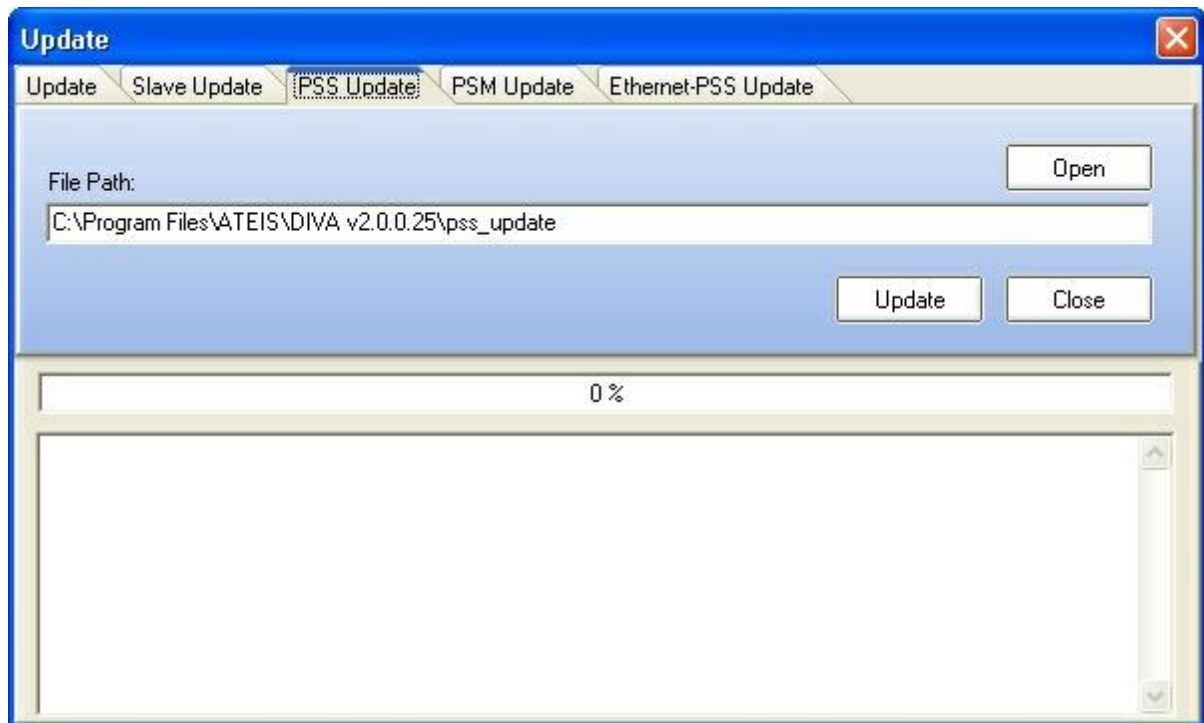
5.5.3.2 Update Slave Unit



- **Open:** Here you can specify the path of the MCU Slave update file. By default, the specified path corresponds to the software release version.
- **Update:** Will start the update process.
- **Close:** Closes the window.
- **Timeline display:** Shows the update process progression.
- **General Display:** Displays the update information.

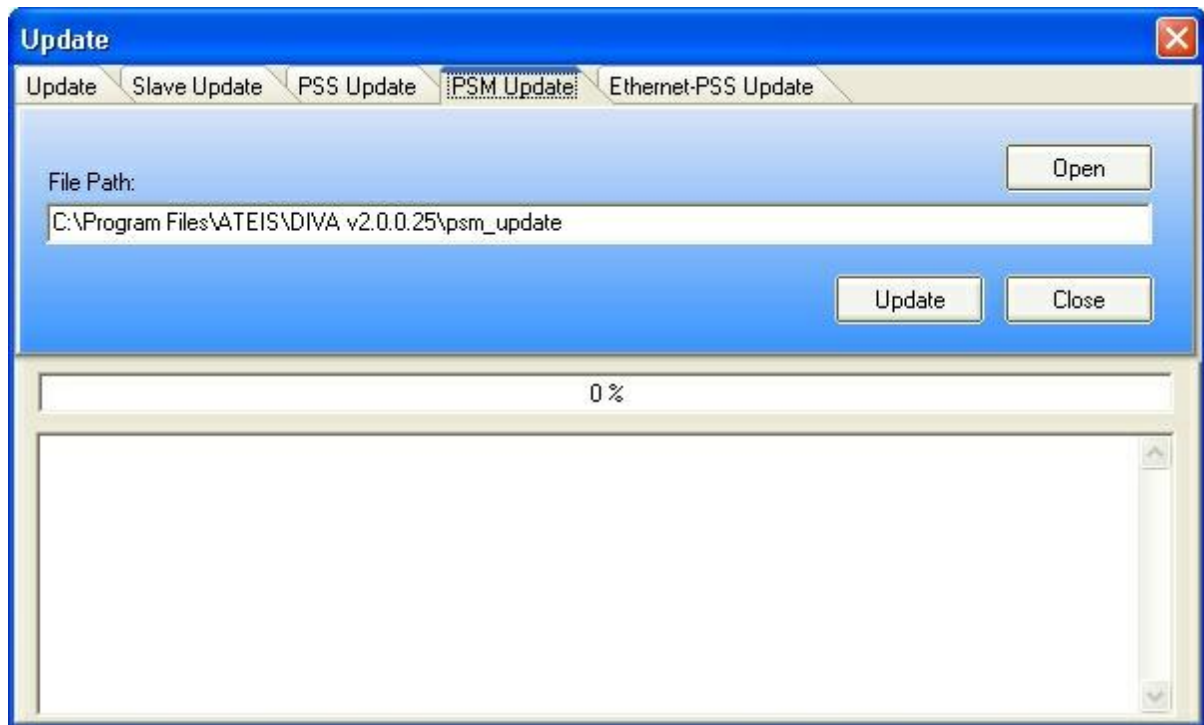
All the slaves in a system can be updated at once. Choose the Slave unit you want to update by checking the corresponding check box.

5.5.3.3 Update PSSG2



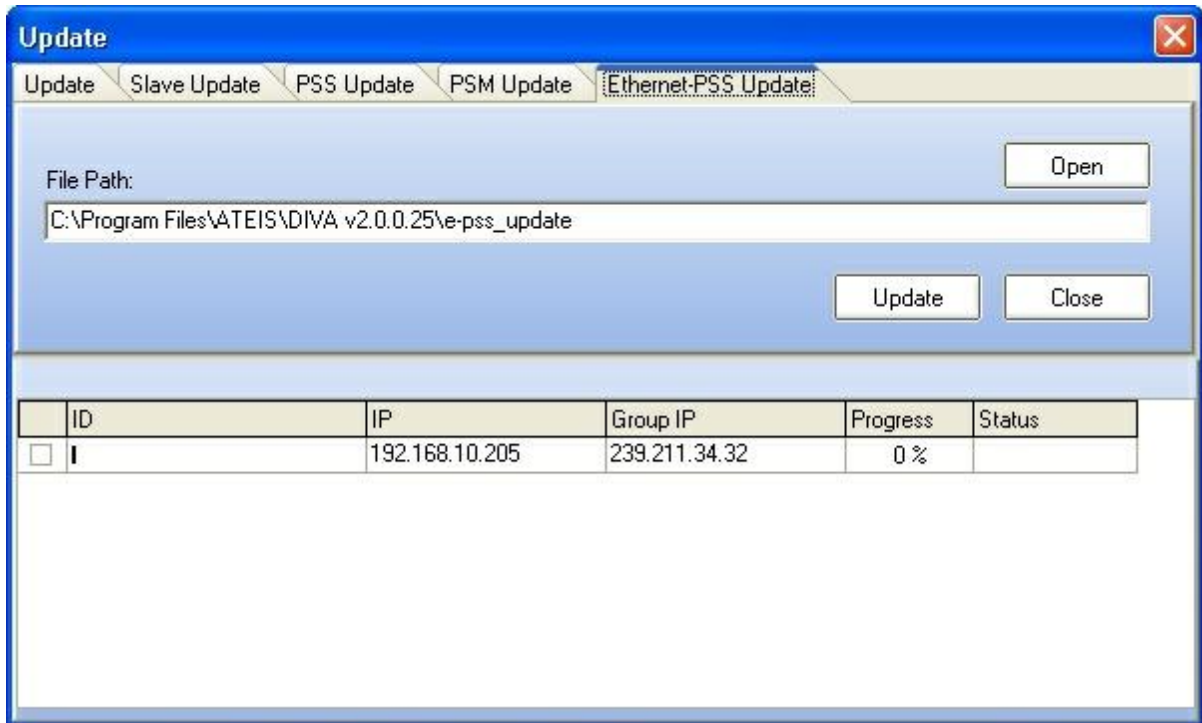
- **Open:** Here you can specify the path of the PSSG2 update file. By default, the path specified correspond to the software release version.
- **Update:** Will start the update process.
- **Close:** Closes the window.
- **Timeline display:** Shows the update process progression.
- **General Display:** Displays the update information.

5.5.3.4 Update PSM/CD16



- **Open:** Here you can specify the path of the PSM/CD16 update file. By default, the specified path corresponds to the software release version.
- **Update:** Will start the update process.
- **Close:** Closes the window.
- **Timeline display:** Shows the update process progression.
- **General Display:** Displays the update information.

5.5.3.5 Update PSSG2E



- **Open:** Here you can specify the path of the PSSG2-E update file. By default, the path specified correspond to the software release version.
- **Update:** Will start the update process.
- **Close:** Closes the window.
- **General Display:** Displays all the Ethernet PSS information as well as the update progression.

5.6 Event Management

As briefly explained before, the DIVA action is based on event philosophy. Each action is described in event. Event can be started by different type of trigger.

The events created by any manner are all listed in the event page window. To access this window, go to the menu View -> Event.

In the Event window, you can managed all the event created and see the priority hierarchy, next event called, sequences and calling event.

The screenshot shows a window titled "Event" with a table containing two rows of event data. Below the table is a control panel with buttons for "Select All", "Select None", "Delete", "Add", "Edit", and "Close". There is also a dropdown menu for "Event Type" currently set to "Fireman Mic Paging".

	Name	Priority	Security	Type	Next Event	Times	Link By
☐	Event 1	20	☐	Play Message			
☐	Event 2	20	☐	Fireman Mic Paging			

Control Panel:

- Select All
- Select None
- Delete
- Event Type: Fireman Mic Paging
- Add
- Edit
- Close

- **Square Selector:** You can select event(s) by ticking the square selector at their right.
- **ID:** The events created are identified with one number, the ID number.
- **Name:** Displays the event's name. You can specify a name for an event when editing the event. By default the name is set to Event X
- **Priority:** Displays the priority level of an event.
- **Security:** Displays if the event is a security one or not.
- **Type:** Displays the type of the event.
- **Next Event:** Displays which event is called after this event.
- **Time:** If an event loop has been created, displays the number of time the loop is made.
- **Link By:** Displays the trigger that will activate the event.
- **Select All:** Select instantaneously all events in the list.
- **Select None:** Deselect instantaneously all selected events.
- **Event Type:** Here you can select the event type that you want to create. This have to be made before press the Add button.
- **Add:** After the event type selection, pressing the Add button will create the new event in the list.
- **Edit:** After creating an event, you will have to edit all its parameters. By clicking the edit button, you will enter the different event setting windows.
- **Close:** Closes the Event window.

There are different types of event and here is a list of all events that can be created.

Note: some event created by accessing the music, fireman microphone and MIC/LINE windows are automatically named and offer settings that could differ from those described in this chapter.

- Load Preset
- Logic Output
- Command String
- Stop Event
- Stop Zone
- Play Message
- Fireman Mic Paging
- MIC/LINE Paging
- Music ON
- Music OFF
- Music ON By Zones
- Music OFF By Zones
- Toggle Music ON/OFF
- Toggle Music ON/OFF By Zones
- Security Mode
- Stop All Event
- Silence Zone Event

5.6.1 Common Options

❖ Security Option:

The Security option is common to all event type. If the security option is selected, this event will be able to be started when DIVA has entered the security mode.

This mode have been created to enter a power safe mode in case of power supply failure, in order to save energy when supply by emergency battery. This mode is automatically launched when using External Fault Inputs.

❖ Evacuation Option:

The evacuation option is offered on all "play message" type of event and on all event related to audio sources. This option is only accessible after having selected the Security option. In fact, an event could only be an evacuation event if it is already a security one.

The evacuation option allows the event to be understood by the machine as an evacuation occurrence. For instance, a play message event with the evacuation option defined will light up the front panel EVAC LED instead of the PAGE LED.

❖ Zone Selection:

In many event you will be able to choose some pre-defined zones. Here is the zone selector display and explanation.

All	Master 1								
	Master								
	All	1	2	3	4	5	6	7	8
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

From Left to right and up to down

Master 1: correspond to your project name (master unit plus slave ones)

- All: selects all zones of master and slave(s) units .

Master: means master unit

- All: selects all zone of the master unit.
- 1-8: allows to select independently zone 1 to 8 from a master and/or slave unit.

❖ Cancel All and Coexist options

The Cancel All and Coexist options have been created to manage conflict when two events using common zones.

The higher priority event always overwrites the lowest priority event in the common zone. But regarding to the option chosen, the behaviour is different.

To learn more, please read this.

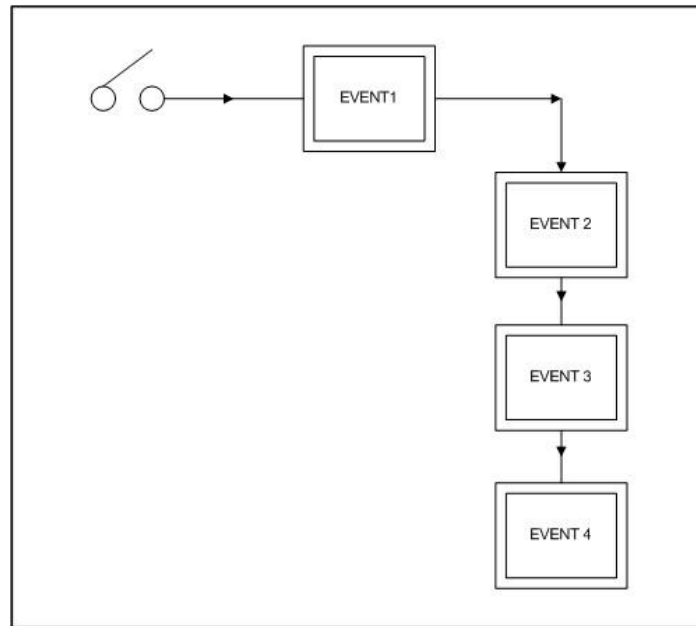
5.6.2 Event Sequence

You can define multiple events by accessing the event window (menu "View -> Event"). In this window, all the existing events are listed. You can add/delete events.

Before adding a new event, choose in the "Event Type" drop-down menu the desire event's type. Click on the new event then "Edit" to be able to set up parameters for this new event.

You can declare event with the same action, like playing a message (even playing the same message). You just have to give them different names.

The event can be cascaded. An explanation diagram is visible on the next figure.

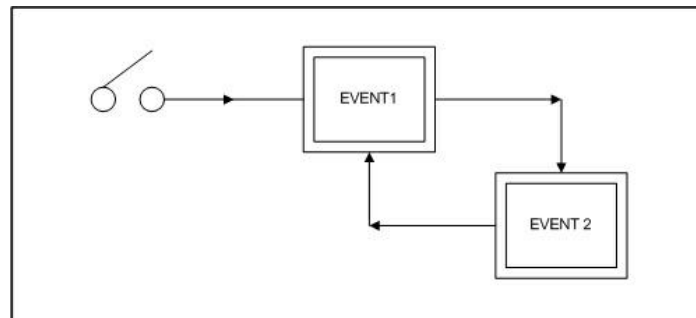


An action like closing a contact could induce to start an event. But as soon as the first event is finished or stopped, the second event will be launched. The second event could activate the start of a third event, and so on.

In each event edit page, there is a next event drop down menu, see below. In this menu you will be able to choose between all the existing events.

Next Event: None

Events could also be looped. The diagram on figure below explains it visually.



According to the looping event diagram, when selecting next event for “Event 2”, choose “Event 1”. As soon as you select an event that is before in the chain, a new “Circular Times” selector is visible just beside the next event drop-down menu (see below). This selector permits to define how many times the events’ loop will be repeat or to make it continuously repeating.

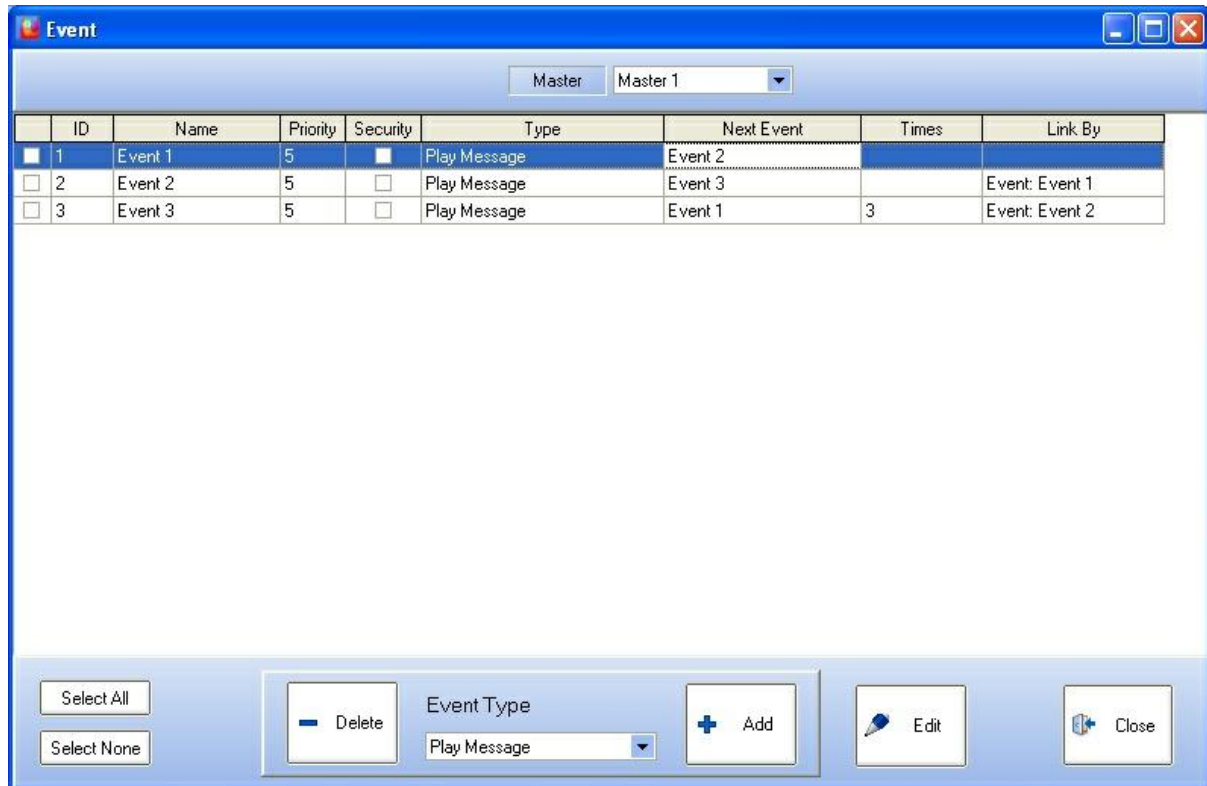
This is a quick way to loop different language evacuation messages for example.

Next Event: Event 1

Circular Mode: ☒ Continuous

Circular Times: 3

Once you go back in the event window. You can see multiple information about sequences like the next event that is called (Next event), the number of time the loop is repeated (Times) and the event or action that is linked to one event (Link By), see picture below.



By clicking at the right of the Next Event box, you will be able to graphically display the event sequence or loop, see below.



5.6.3 Event Type

In the Next paragraph, you will find a description of all the different events that could be found in DIVA programming.

You will by this way learn how to use them and when to use them.

▼ Load Preset

In DIVA, you have the possibility to set preset. To learn more about presets, please read this.

The event load preset can be used as soon as there are existing preset. It allows activating a preset with different trigger like GPIO or the scheduler.



The screenshot shows a 'Load Preset Event' dialog box. It has a blue title bar with the text 'Load Preset Event' and a close button. The main area is light blue and contains several input fields: 'Type' (Load Preset), 'Priority' (20, with '(Not Accessible)' text), 'Name' (Event 3), 'Attrib.' (Security checkbox), 'Next Event' (None dropdown), and 'Preset' (None dropdown). At the bottom right are 'OK' and 'Cancel' buttons.

- **Type:** Displays the type of event that is created, in this case Load Preset.
- **Name:** Here you can specify a name for the event created.
- **Attrib.:** Here you can choose between security event or not. See [Common Option](#) to learn more about the security option.
- **Next Event:** You can specify an event that will be started as soon as this event is finished.
- **Preset:** Here you can specify the preset to be loaded.

▼ Logic Output

As described before, DIVA has 8 output channels that can be commanded by several trigger type. When using the

Logic Output Event, you can associate to a trigger the closing of an output.

Logic Output Event

Type: Logic Output Priority: 20 (Not Accessible)

Name: Event 4 Attrib.: ☐ Security

Next Event: None

Hold Time: 50 ms

Logic Output Channel

Device	All	1	2	3	4	5	6	7	8
Master	☐	☐	☐	☐	☐	☐	☐	☐	☐

OK Cancel

- **Type:** Displays the type of event that is created, in this case Load Preset.
- **Name:** Here you can specify a name for the event created.
- **Attrib.:** Here you can choose between security event or not. See [Common Option](#) to learn more about the security option.
- **Next Event:** You can specify an event that will be started as soon as this event is finished.
- **Hold Time:** Ticking this option allows generating a pulse whose length can be defined from 50 to 60000 ms.
- **Logic Output:** Here you can specify which output(s) you want to close when the event is triggered.

To learn more about output relay, please read the [How To Use Output Relay](#).

▼ Command String

With this event you can send by RS232 commands to third party devices. Valid commands are described in the Communication Protocols chapter.



- **Type:** Displays the type of event that is created, in this case Load Preset.
- **Name:** Here you can specify a name for the event created.
- **Attrib.:** Here you can choose between security event or not. See [Common Option](#) to learn more about the security option.
- **Next Event:** You can specify an event that will be started as soon as this event is finished.
- **Starting Command:** Here you can type in the command to be sent at the event activation.
- **Stopping Command:** Here you can type in the command to be sent at the event deactivation.
- **Port Number:** Here you have to specify on which RS232 port the command have to be sent.

▼ **Stop Event**

This event have been created in order to be able to stop any event by the means of a trigger.

Stop Event Event

Type: Stop Event Priority: 20 (Zero equals highest)

Name: Event 6 Attrib.: ☐ Security

Next Event: None

Stop Event: None

OK Cancel

- **Type:** Displays the type of event that is created, in this case Load Preset.
- **Name:** Here you can specify a name for the event created.
- **Priority:** Here you can choose a priority level for this event.
- **Attrib.:** Here you can choose between security event or not. See [Common Option](#) to learn more about the security option.
- **Next Event:** You can specify an event that will be started as soon as this event is finished.
- **Stop Event:** Here you can select from the existing event list, the event to be stopped.

▼ Stop Zone

The Stop Zones event can interrupt every paging, music events in pre-defined zone(s).

Stop Zones Event

Type: Stop Zone Priority: 20 (Zero equals highest)

Name: Event 7 Attrib.: ☐ Security

Next Event: None

All	Master 1								
	Master								
	All	1	2	3	4	5	6	7	8
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

OK Cancel

- **Type:** Displays the type of event that is created, in this case Load Preset.

- **Name:** Here you can specify a name for the event created.
- **Priority:** Here you can choose a priority level for this event.
- **Attrib.:** Here you can choose between security event or not. See [Common Option](#) to learn more about the security option.
- **Next Event:** You can specify an event that will be started as soon as this event is finished.
- **Zone Selection:** Here you can choose in which zones lower priority events will be interrupted.

▼ **Play Message**

Play message allows starting a message in pre-defined zones after a trigger or starting a message in zones manually selected. The Play Message event offers the possibility to set an output relay activation. For more information about use of output relay, please read [this](#).

Play Message Event

Type: Play Message Priority: 20 (Zero equals highest)

Name: Event 1 Attrib.: ☐ Security

Next Event: Event 2

Start Impulse Stop Impulse

☐ Enable

Length: ☐ Pulse 50 ms. ☒ Static

Device	Logic Output Channel								
	All	1	2	3	4	5	6	7	8
Master	☐	☐	☐	☐	☐	☐	☐	☐	☐

ACK Relay Busy Relay

☐ Enable

Device	Logic Output Channel								
	All	1	2	3	4	5	6	7	8
Master	☐	☐	☐	☐	☐	☐	☐	☐	☐

Message: Play Mode: ☐ Continuous

Conflict: ☐ Cancel All ☒ Coexist Repeat Times: 1

Pre-define Zone: ☐ Pre-define Zone Enable

All	Master 1								
	All	1	2	3	4	5	6	7	8
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

OK Cancel

- **Type:** Display the type of event you are creating or modifying.
- **Name:** Here you can specify a name for the event created. Default is Event X
- **Priority:** Here you can adjust the priority of the event. 20 is the lowest, 0 is the highest.

- **Attrib.:** Here you can specify if this event is a security one or not and if it is an evacuation event or not. See [Common Option](#) to learn more about the security option.
- **Next Event:** Here you can select the event to start after the current one is finished.
- **Start Impulse:** Ticking this option allows user to close an output contact (Logic Output channel) in two different manner. Static will close it until the event stop and Pulse will generate a closing pulse whose length can be defined from 50 to 60000 ms.
- **Stop Impulse:** This option is used to create a closing contact pulse when the event is finished. The length of the pulse can be defined from 50 to 60000 ms.
- **ACK Relay:** You can specify here an logic output channel that will be closed when the event is active.
- **Busy Relay:** Here you can specify an Logic Output Channel relay that will be closed as soon as a higher priority event is active in one of the pre-define zones.

To learn more about output relay, please read the [How To Use Output Relay](#).

- **Message:** By using the drop down menu, you can select, in the list of stored message, a message to assign to the event.
- **Play Mode:** By ticking continuous, the message will be played until a trigger happen. You can also specify a number of repeat time.
- **Conflict:** You can choose between Cancel All or Coexist.
- **Repeat Time:** If continuous not ticked, you can choose a number of time this event will be repeated.
- **Pre-define Zone:** Here you can specify the pre-define zone(s) where the message will be played.
- **Zone Selection:** Here you can specify the zone(s) where the call will be played.

Note: Messages can only be seen if they are a part of the configuration. Reading the message memory of the DIVA does not put messages in the configuration. You'll have to reverse the messages in order to be able to use them in the configuration.

▼ Fireman Mic Paging

A Fireman Mic Paging event can be declared in order to be used with any type of trigger.

Fireman Mic Paging Event

Type: Fireman Mic Paging Priority: 20 (Zero equals highest)

Name: Event 8 Attrb.: ☐ Security

Next Event: None

Start Impulse Stop Impulse

☐ Enable

Length: ☐ Pulse 50 ms. ☐ Static

Device	Logic Output Channel								
	All	1	2	3	4	5	6	7	8
Master	☐	☐	☐	☐	☐	☐	☐	☐	☐

ACK Relay Busy Relay

☐ Enable

Device	Logic Output Channel								
	All	1	2	3	4	5	6	7	8
Master	☐	☐	☐	☐	☐	☐	☐	☐	☐

Conflict ☐ Cancel All ☒ Coexist

Pre Chime ☐ Pre Chime Enable

Post Chime ☐ Post Chime Enable

Pre-define Zone ☐ Pre-define Zone Enable

All	Master 1								
	All	1	2	3	4	5	6	7	8
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

OK Cancel

- **Type:** Display the type of event you are creating or modifying.
- **Name:** Here you can specify a name for the event created. Default is Event X

- **Priority:** Here you can adjust the priority of the event. 20 is the lowest, 0 is the highest.
- **Attrib.:** Here you can specify if this event is a security one or not and if it is an evacuation event or not. See [Common Option](#) to learn more about the security option.
- **Next Event:** Here you can select the event to start after the current one is finished.
- **Start Impulse:** Ticking this option allows user to close an output contact (Logic Output channel) in two different manner. Static will close it until the event stop and Pulse will generate a closing pulse whose length can be defined from 50 to 60000 ms.
- **Stop Impulse:** This option is used to create a closing contact pulse when the event is finished. The length of the pulse can be defined from 50 to 60000 ms.
- **ACK Relay:** You can specify here an logic output channel that will be closed when the event is active.
- **Busy Relay:** Here you can specify an Logic Output Channel relay that will be closed as soon as a higher priority event is active in one of the pre-define zones.

To learn more about output relay, please read the [How To Use Output Relay](#).

- **Conflict:** You can choose between Cancel All or Coexist.
- **Pre Chime:** Before a call you can add a chime message. Here, if Pre Chime Enable is selected, you can select which message will be used as pre chime.
- **Post Chime:** After a call you can add a chime message. Here, if Post Chime Enable is selected, you can select which message will be used as post chime
- **Pre-define Zone:** If ticked, you can choose pre defined zone with the zone selector.
- **Zone Selection:** Here you can specify the zone(s) where the call will be played

▼ MIC/LINE Paging

A Mic/Line Paging event can be declared in order to be used with any type of trigger.

Mic/Line Paging Event

Type: Mic/Line Paging Priority: 20 (Zero equals highest)

Name: Event 9 Attrb.: ☐ Security

Next Event: None

Start Impulse Stop Impulse

☐ Enable

Length: ☐ Pulse 50 ms. ☒ Static

Device	Logic Output Channel								
	All	1	2	3	4	5	6	7	8
Master	☐	☐	☐	☐	☐	☐	☐	☐	☐

ACK Relay Busy Relay

☐ Enable

Device	Logic Output Channel								
	All	1	2	3	4	5	6	7	8
Master	☐	☐	☐	☐	☐	☐	☐	☐	☐

Conflict ☐ Cancel All ☒ Coexist

Pre Chime ☐ Pre Chime Enable

Post Chime ☐ Post Chime Enable

Pre-define Zone ☐ Pre-define Zone Enable

All	Master 1								
	All	1	2	3	4	5	6	7	8
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

OK Cancel

- **Type:** Display the type of event you are creating or modifying.
- **Name:** Here you can specify a name for the event created. Default is Event X

- **Priority:** Here you can adjust the priority of the event. 20 is the lowest, 0 is the highest.
- **Attrib.:** Here you can specify if this event is a security one or not and if it is an evacuation event or not. See [Common Option](#) to learn more about the security option.
- **Next Event:** Here you can select the event to start after the current one is finished.
- **Start Impulse:** Ticking this option allows user to close an output contact (Logic Output channel) in two different manner. Static will close it until the event stop and Pulse will generate a closing pulse whose length can be defined from 50 to 60000 ms.
- **Stop Impulse:** This option is used to create a closing contact pulse when the event is finished. The length of the pulse can be defined from 50 to 60000 ms.
- **ACK Relay:** You can specify here an logic output channel that will be closed when the event is active.
- **Busy Relay:** Here you can specify an Logic Output Channel relay that will be closed as soon as a higher priority event is active in one of the pre-define zones. To learn more about output relay, please read the [How To Use Output Relay](#).
- **Conflict:** You can choose between Cancel All or Coexist.
- **Pre Chime:** Before a call you can add a chime message. Here, if Pre Chime Enable is selected, you can select which message will be used as pre chime.
- **Post Chime:** After a call you can add a chime message. Here, if Post Chime Enable is selected, you can select which message will be used as post chime
- **Pre-define Zone:** If ticked, you can choose pre defined zone with the zone selector.
- **Zone Selection:** Here you can specify the zone(s) where the call will be played

▼ **Music ON**

The Music On event allows to start music source 1 or 2 with any type of trigger. Music sources will start playing in pre-defined zone(s) chosen in the Music Event window.

Music On Event

Type: Music On Priority: 20 (Zero equals highest)

Name: Event 10 Attrib.: ☐ Security

Next Event: None

Start Impulse | Stop Impulse

☐ Enable

Length: ☐ Pulse 50 ms ☒ Static

Device	Logic Output Channel								
	All	1	2	3	4	5	6	7	8
Master	☐	☐	☐	☐	☐	☐	☐	☐	☐

Music Source: Music 1

OK Cancel

- **Type:** Display the type of event you are creating or modifying.
- **Name:** Here you can specify a name for the event created. Default is Event X.
- **Priority:** Here you can adjust the priority of the event. 20 is the lowest, 0 is the highest.
- **Attrib.:** Here you can specify if this event is a security one or not. See [Common Option](#) to learn more about the security option.
- **Next Event:** Here you can select the event to start after the current one is finished.
- **Start Impulse:** Ticking this option allows user to close an output contact (Logic Output channel) in two different manner. Static will close it until the event stop and Pulse will generate a closing pulse whose length can be defined from 50 to 60000 ms.
- **Stop Impulse:** This option is used to create a closing contact pulse when the event is finished. The length of the pulse can be defined from 50 to 60000 ms.

To learn more about output relay, please read the [How To Use Output Relay](#).

- **Music Source:** Here you can choose the music source you want to switch on.

▼ Music OFF

The Music Off event allows to stop music source 1 or 2 with any type of trigger. Music sources will stop playing in pre-defined zone(s) chosen in the Music Event window.

Music Off Event

Type: Music Off Priority: 20 (Zero equals highest)

Name: Event 11 Attrib.: ☐ Security

Next Event: None

Start Impulse **Stop Impulse**

☐ Enable

Length: 50 ms

☐ Pulse ☒ Static

Device	Logic Output Channel								
	All	1	2	3	4	5	6	7	8
Master	☐	☐	☐	☐	☐	☐	☐	☐	☐

Music Source: Music 1

OK Cancel

- **Type:** Display the type of event you are creating or modifying.
- **Name:** Here you can specify a name for the event created. Default is Event X.
- **Priority:** Here you can adjust the priority of the event. 20 is the lowest, 0 is the highest.
- **Attrib.:** Here you can specify if this event is a security one or not. See [Common Option](#) to learn more about the security option.
- **Next Event:** Here you can select the event to start after the current one is finished.
- **Start Impulse:** Ticking this option allows user to close an output contact (Logic Output channel) in two different manner. Static will close it until the event stop and Pulse will generate a closing pulse whose length can be defined from 50 to 60000 ms.
- **Stop Impulse:** This option is used to create a closing contact pulse when the event is finished. The length of the pulse can be defined from 50 to 60000 ms.

To learn more about output relay, please read the [How To Use Output Relay](#).

- **Music Source:** Here you can choose the music source you want to switch off.

▼ Music ON By Zones

The Music On By Zones event allows to start music source 1 or 2 with any type of trigger in pre-defined zone(s).

Music On By Zones Event

Type: Music On By Zones Priority: 20 (Zero equals highest)

Name: Event 12 Attrib.: ☐ Security

Next Event: None

Start Impulse **Stop Impulse**

☐ Enable

Length: ☐ Pulse 50 ms ☒ Static

Device	Logic Output Channel								
	All	1	2	3	4	5	6	7	8
Master	☐	☐	☐	☐	☐	☐	☐	☐	☐

Music Source: Music 1

All	Master 1								
	All	1	2	3	4	5	6	7	8
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

OK Cancel

- **Type:** Display the type of event you are creating or modifying.
- **Name:** Here you can specify a name for the event created. Default is Event X.
- **Priority:** Here you can adjust the priority of the event. 20 is the lowest, 0 is the highest.
- **Attrib.:** Here you can specify if this event is a security one or not. See [Common Option](#) to learn more about the security option.
- **Next Event:** Here you can select the event to start after the current one is finished.
- **Start Impulse:** Ticking this option allows user to close an output contact (Logic Output channel) in two different manner. Static will close it until the event stop and Pulse will generate a closing pulse whose length can be defined from 50 to 60000 ms.
- **Stop Impulse:** This option is used to create a closing contact pulse when the event is finished. The length of the pulse can be defined from 50 to 60000 ms.

To learn more about output relay, please read the [How To Use Output Relay](#).

- **Music Source:** Here you can choose the music source you want to switch on.
- **Zone Selection:** Here you can specify the zone(s) where the music will be activated.

▼ Music OFF By Zones

The Music Off By Zones event allows to stop music source 1 or 2 with any type of trigger in pre-defined zone(s).

Music Off By Zones Event

Type: Music Off By Zones Priority: 20 (Zero equals highest)

Name: Event 13 Attrib.: ☐ Security

Next Event: None

Start Impulse: ☐ Enable ☒ Pulse 50 ms ☒ Static

Device	Logic Output Channel								
	All	1	2	3	4	5	6	7	8
Master	☐	☐	☐	☐	☐	☐	☐	☐	☐

Music Source: Music 1

All	Master 1								
	All	1	2	3	4	5	6	7	8
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

OK Cancel

- **Type:** Display the type of event you are creating or modifying.
- **Name:** Here you can specify a name for the event created. Default is Event X.
- **Priority:** Here you can adjust the priority of the event. 20 is the lowest, 0 is the highest.
- **Attrib.:** Here you can specify if this event is a security one or not. See [Common Option](#) to learn more about the security option.
- **Next Event:** Here you can select the event to start after the current one is finished.
- **Start Impulse:** Ticking this option allows user to close an output contact (Logic Output channel) in two different manner. Static will close it until the event stop and Pulse will generate a closing pulse whose length can be defined from 50 to 60000 ms.
- **Stop Impulse:** This option is used to create a closing contact pulse when the event is finished. The length of the pulse can be defined from 50 to 60000 ms.

To learn more about output relay, please read the [How To Use Output Relay](#).

- **Music Source:** Here you can choose the music source you want to switch off.
- **Zone Selection:** Here you can specify the zone(s) where the music will stop playing.

▼ Toggle Music ON/OFF

The Toggle Music On/Off event have been created to turn music on or off with one same trigger. As example, using a contact, one closing will switch on music, one more closing will switch off music.

- **Type:** Display the type of event you are creating or modifying
- **Name:** Here you can specify a name for the event created. Default is Event X
- **Priority:** Here you can adjust the priority of the event. 20 is the lowest, 0 is the highest
- **Attrib.:** Here you can specify if this event is a security one or not. See [Common Option](#) to learn more about the security option
- **Next Event:** Here you can select the event to start after the current one is finished.
- **Start Impulse:** Ticking this option allows user to close an output contact (Logic Output channel) in two different manner. Static will close it until the event stop and Pulse will generate a closing pulse whose length can be defined from 50 to 60000 ms.
- **Stop Impulse:** This option is used to create a closing contact pulse when the event is finished. The length of the pulse can be defined from 50 to 60000 ms.

To learn more about output relay, please read the [How To Use Output Relay](#).

- **Music Source:** Here you can choose the music source you want to switch on/off

▼ Toggle Music ON/OFF By Zones

The Toggle Music On/Off By Zone event have been created to turn music on or off with one same trigger in some zones. As example, using a contact, one closing will switch on music one more closing will switch off music in pre-defined zone(s).

All	Master 1								
	Master								
	All	1	2	3	4	5	6	7	8
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

- **Type:** Display the type of event you are creating or modifying.
- **Name:** Here you can specify a name for the event created. Default is Event X
- **Priority:** Here you can adjust the priority of the event. 20 is the lowest, 0 is the highest.
- **Attrib.:** Here you can specify if this event is a security one or not. See [Common Option](#) to learn more about the security option.
- **Next Event:** Here you can select the event to start after the current one is finished.
- **Start Impulse:** Ticking this option allows user to close an output contact (Logic Output channel) in two different manner. Static will close it until the event stop and Pulse will generate a closing pulse whose length can be defined from 50 to 60000 ms.
- **Stop Impulse:** This option is used to create a closing contact pulse when the event is finished.

The length of the pulse can be defined from 50 to 60000 ms.

To learn more about output relay, please read the [How To Use Output Relay](#).

- **Music Source:** Here you can choose the music source you want to switch on/off by zone.
- **Zone Selection:** Here you can specify the zone(s) where the music will switch On/Off by zone.

▼ Security Mode

In order to be compliant to standard and to save energy, DIVA has two working mode: Normal and Security.

- ❖ **Normal:** DIVA is supplied by the electricity network. In normal mode, any type of event could be started.
- ❖ **Security:** DIVA is supplied by backup batteries after a power supply failure. In security mode, only security event could be started, Music is automatically deactivated. The purpose of the security mode is to save energy and to increase DIVA working state under batteries.

In order to fit the event philosophy, you can force DIVA to enter the security mode with the Security Mode event.

Be careful when using such an event, all non security event will be unavailable.

- **Type:** Display the type of event you are creating or modifying.
- **Name:** Here you can specify a name for the event created. Default is Event X.
- **Priority:** Here you can adjust the priority of the event. 20 is the lowest, 0 is the highest.
- **Attrib.:** Not accessible.
- **Next Event:** Here you can select the event to start after the current one is finished.

Note: In order to use a Fault Input contact to trigger the security mode, the event must be link to the corresponding fault input. To do so, please refer to the "[How To Use Logic Inputs](#)" chapter.

▼ Stop All Event

This event has been design to stop all events that are currently running in the system with one trigger action.

Stop All Event

Type: Stop All Event Priority: 20 (Zero equals highest)

Name: Event 16 Attrib.: ☐ Security

Next Event: None

OK Cancel

- **Type:** Display the type of event you are creating or modifying.
- **Name:** Here you can specify a name for the event created. Default is Event X
- **Priority:** Here you can adjust the priority of the event. 20 is the lowest, 0 is the highest.
- **Attrib.:** Here you can specify if this event is a security one or not. See [Common Option](#) to learn more about the security option.
- **Next Event:** Here you can select the event to start after the current one is finished.

▼ Silence Zone Event

The "Silence Zones Event" allow user to mute the audio in zone(s) without affecting the zone state (evacuation or alert/page). This is a common way for firemen to stop the evacuation message when a building is empty.

Silence Zones Event

Type: Silence Zone Priority: 20 (Zero equals highest)

Name: Event 7 Attrib.: ☐ Security

Next Event: None

All	Master 1								Slave 01(1)									
	All	1	2	3	4	5	6	7	8	All	1	2	3	4	5	6	7	8
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

OK Cancel

- **Type:** Display the type of event you are creating or modifying
- **Name:** Here you can specify a name for the event created. Default is Event X

- **Priority:** Here you can adjust the priority of the event. 20 is the lowest, 0 is the highest
- **Attrib.:** Here you can specify if this event is a security one or not. See [Common Option](#) to learn more about the security option
- **Next Event:** Here you can select the event to start after the current one is finished
- **Zone Selection:** Here you can choose in which zones audio will be muted.

5.7 Audio Sources

5.7.1 Music Source

In order to use music sources, first drag and drop music source from the [Design Component Section](#) to the Master window. Double-click the music source icon to enter the Music Source window, see below.

Music sources routing can be managed from front panel, from PSS and from logic input. You can also use realtime control and indicators in order to adjust the music sources' level, to mute sources independently and to check music sources status.

See the following chapter to learn more:

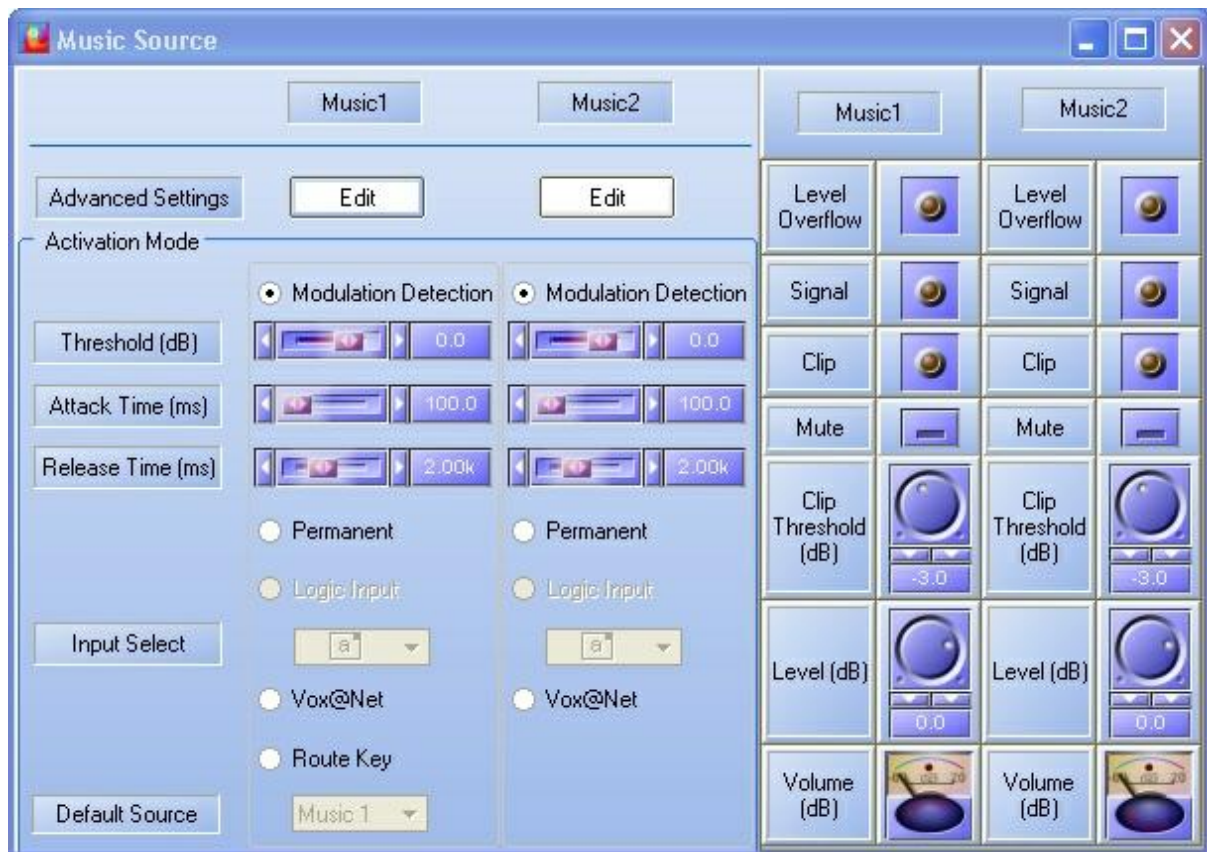
- [Use Music Source From Front Panel](#)
- [With Modulation Detection](#)
- In permanent Mode

In Permanent mode, the music sources are set once and cannot be manage anymore from front panel. However, real-time controls are still useable.

To change the sources routing, you will have to change the DIVA configuration. In permanent mode, you only have to Edit the music sources parameters.

Note: be carful when setting priority for both music sources. Same priority for the two music sources can result in conflict.

- [Use Music Source From PSS](#)
- [Use Music Source From Logic Input](#)
- [Software Control](#)



The Music Source main window allows user to select in which mode the music sources are used. You can find:

- **Modulation Detection:** The modulation detection mode is like the VOX mode. It allows you to activate a source as soon as a certain amount of signal is detected.
- **Permanent:** Permanent mode allows to set up both music sources' routing. It will deactivate all the front panel music controls
- **Logic Input:** Using music from logic input allows user to manage external trigger to control the routing of music sources.
- **Vox@Net:** Please refer to the [How to Put DIVA in Vox@Net](#) chapter.
- **Route Key:** The route key mode will activate all the music button on the front panel and will offer the possibility to route music from the PSS microphone console.

For all those different mode, you will have to set up the music sources setting by clicking the Edit button for both sources. When clicking on the Edit button for music source 1 or 2, you will enter the music source Advanced setting, see below.

Note: for music used with logic inputs, the music sources settings have to be made with the [Music Events](#).

Advanced Settings

Priority: 19 (Zero equals highest) Attrib. ☐ Security

Start Impulse Stop Impulse

☐ Enable

Length:
☐ Pulse: 50 ms ☒ Static

Device	Logic Output Channel								
	All	1	2	3	4	5	6	7	8
Master	☐	☐	☐	☐	☐	☐	☐	☐	☐

Pre-define Zone ☐ Pre-define Zone Enable

All	Master 1								
	All	1	2	3	4	5	6	7	8
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

OK Cancel

- **Priority:** Here you can adjust the priority of the event. 20 is the lowest, 0 is the highest. Note: be careful when setting priority for both sources, conflict may appeared if both sources have the same priority level.
- **Attrib:** Here you can specify if this event is a security one or not. See How to Use Event to learn more about the security option.
- **Start Impulse:** Ticking this option allows user to close an output contact (Logic Output channel) in two different manner. Static will close it until the event stop and Pulse will generate a closing pulse whose length can be defined from 50 to 60000 ms.
- **Stop Impulse:** This option is used to create a closing contact pulse when the event is finished. The length of the pulse can be defined from 50 to 60000 ms.
- **ACK Relay:** You can specify here an logic output channel that will be closed when the event is active.
- **Busy Relay:** Here you can specify an Logic Output Channel relay that will be closed as soon as a higher priority event is active in one of the pre-define zones. The output relay part is discussed in the How To Use Output Relay, please read it.
- **Pre-define Zone:** Here you can specify in which zone music will be routed. Note: In Route Key mode, you don't have to pre-define zones as everything is controlled from the front panel. However, you can specify zone in Route Key mode but keep in mind that the routing will only be activated for default music source.
- **OK:** Will accept the current setting and close the window.
- **Cancel:** Will annulled the current settings and close the window.

5.7.1.1 Use Music Source From Front Panel

On DIVA front panel, you have the possibility to assigned music sources to a zone (or multiple), set up attenuation for each speaker zone (only on music). To manage music source, the music sources should be set in "Route Key" mode, see [How To Use Music Source](#).

The procedure to assign a music source to a zone is the following:

- Select the music source:
 - Press the SELECT button to go from Source 1 to Source 2.
 - Press SELECT button to go from Source 2 to no selection.
 - Press SELECT button to re-select Source 1.
- Select the zone(s):
 - Press the zone button(s) you want to activate on Master and/or Slaves. The corresponding white selection LED(s) should light(s) up.
- Validate the routing by pressing the ROUTE button.

You can independently route music 1 and 2 in group of zones.

❖ Zone attenuators:

In each master zone, the music level can be attenuated depending your needs. The attenuators offer 6 attenuation positions: 0, -4, -8, -12, -16, -20 dB.

- Adjust the corresponding zone(s) ATTENUATOR KNOBS to the desired attenuation level.

Note: zones that are monitored cannot be attenuated to -20dB without causing monitoring problems. At -20dB attenuation, the accuracy of the impedance circuitry reach its limit.

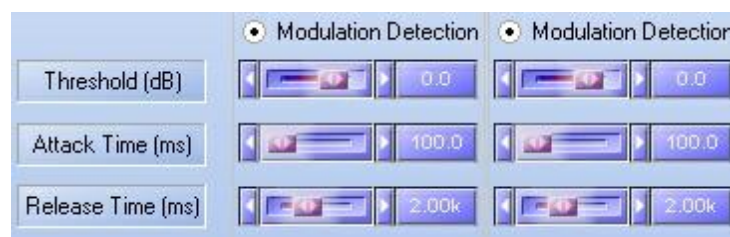
Note: if two music sources are used, keep in mind that attenuator will only have effect on only one of them (music 1). Because the Voice amplifier will be used for music 2, the attenuators won't have any effect on the sound level.

Note: Music attenuator are only available on Master DIVA unit

5.7.1.2 With Modulation Detection

The modulation detection mode allows to automatically route music sources in case of signal presence. You can set up both source one and two in modulation detection as well as only one source.

The normal use of this option is to set up one source in permanent mode and the other one in modulation detection (example tuner in permanent and CD player in mod.det.). Keep in mind that in that mode, the music front panel buttons are disabled.



In order to use the modulation detection, tick the Modulation Detection option for the source you want to

use that way. Once the option selected, you will have access to detection settings:

- **Threshold (dB):** The threshold setting will set the trigger point for activation of the music source. If the threshold is set to -10 dB, the music source activation will take place when the signal received from that source will be over -10 dB.
- **Attack Time (ms):** The Attack time can be understood like the amount of time that the signal have to be over the threshold point before music source will be activated. A correct setting of the attack time can avoid inopportune activation of the music source (peak signal activation). The Attack time can be set from 0 ms to 5000 ms.
- **Release Time (ms):** As opposed to the Attack time, the Release time is the amount of time for which the signal have to stay under the threshold point before deactivation of the music sources. A correct Release Time can avoid inopportune deactivation of the music source (blank in CD). The release time can be set from 0 ms to 5000 ms.

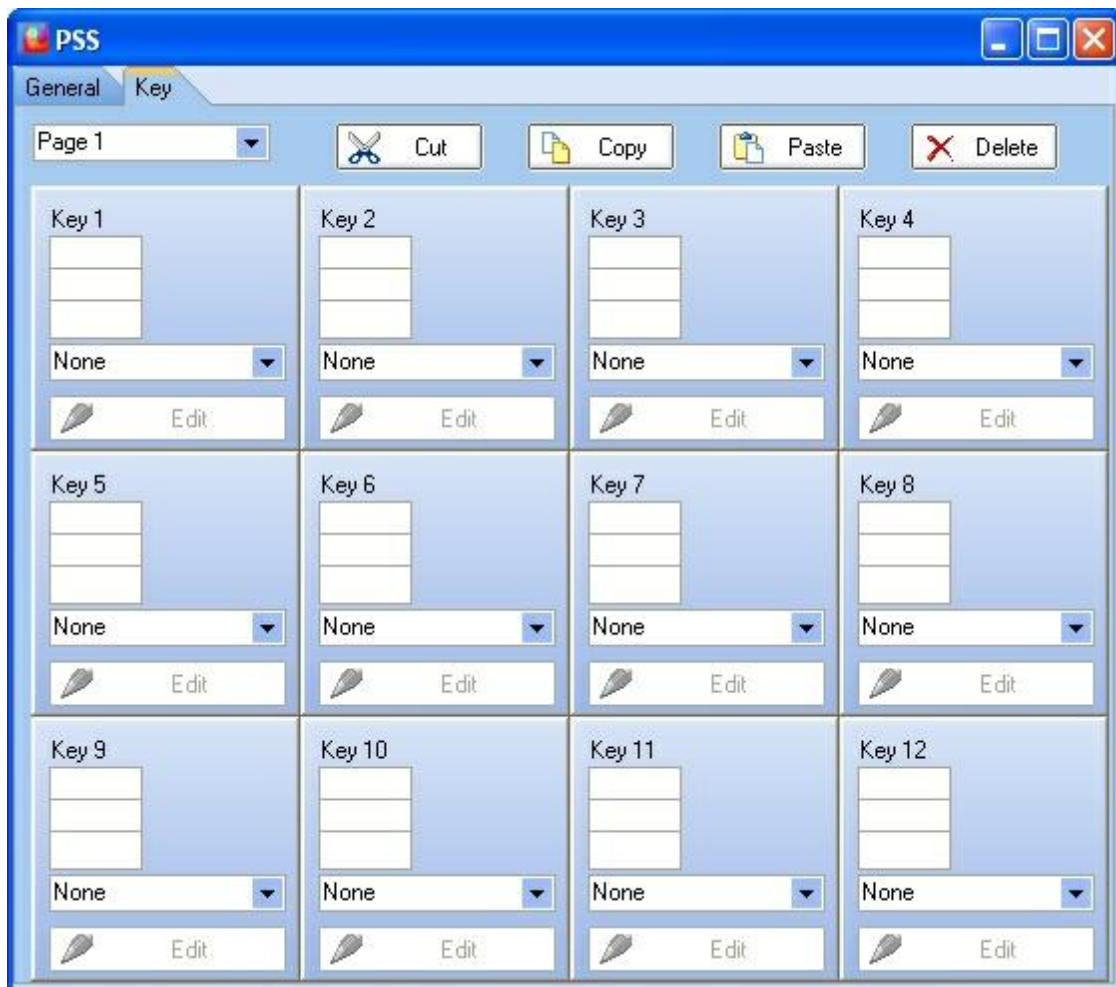
Setting those parameter correctly needs some experience, so be careful and please test it to learn more about the behaviour of this option.

Once your modulation detection parameters are adjusted, you have to edit the advance setting for the music sources, please refer to the Use Music Source general chapter.

5.7.1.3 Use Music Source From PSS

The PSS microphone is able to operate on music sources. In order to do so, you have to define PSS keys to suit your need. See [How To Use PSS Microphone](#) to learn more about the PSS.

Note: Routing music from the PSS can only be operated if the music source mode is Route Key. PSS keys, for music operations, can be set to different type using the drop-down menu, see below:

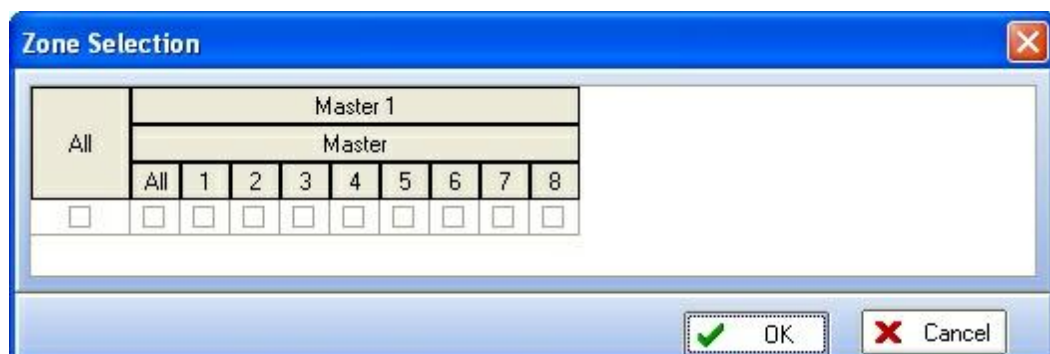


- Zone Selection

By creating a "Zone Selection" key, you can make a selection of zones in which music will be routed.

Note: Zone Selection keys are not exclusively for Zone selection for paging, music zone keys are made the same way.

As soon as you select "Zone Selection", a new "Zone Selection" window will pop up. In this window, choose the zone(s) to associate to the key (see below).



- Music Source Selection

When creating a "Music Source Selection" key, you will have to choose between music source 1 and music source 2 with the "Key Setting" pop-up window.



This type of key is used as the front panel select button. You have to select the music source before you can route it to some zones. **Note:** this key is not a music source toggle type, you will have to create two music source selection keys in order to be able to route both sources.

- **Route:** The ROUTE key acts exactly as the front panel route button. It is the way to validate a music source and zone selection.
- **Music Level +/- Music Level - :** From the PSS you can create keys to control the music sources level. The Key created that way is affiliated to one source. So for Controlling both sources level, you will have to create four keys, two for source one and two for source two.



Example 1: procedure to route music source 1 to zone 2, 4 and 6 and music source 2 to zone 3, 5 and 7

- Create "Zone Selection" key type for zone 2, 3, 4, 5, 6 and 7. Named them accordingly
- Create a "ROUTE" key
- Create two "Music Sources Selection" keys. Named them "Music 1" and "Music 2"
- Store your configuration into DIVA
- To route "Music 1" in zone 2, 4 and 6, press the "Music 1" key then press the zone 2, 4 and 6 and finally press the "ROUTE" key
- To route "Music 1" in zone 3, 5 and 7, press the "Music 2" key then press the zone 3, 5 and 7 and finally press the "ROUTE" key

Example 2: procedure to increase and decrease music source 1 level

- Create a "Music Level +" key and a "Music Level -" key. Named them "Music1 Level+" and "Music1 Level-"
- To increase music source 1 level, simply press the "Music1 level+" key
- To decrease music source 1 level, simply press the "Music1 level-" key

5.7.1.4 Use Music Source From Logic Input

Like with the PSS, music sources routing can be operate by external trigger, that means with the help of the logic, evacuation or even external fault inputs. In order to access the logic inputs menu, go on menu View -> Logic Inputs.

The Logic Inputs page will pops up, see below.

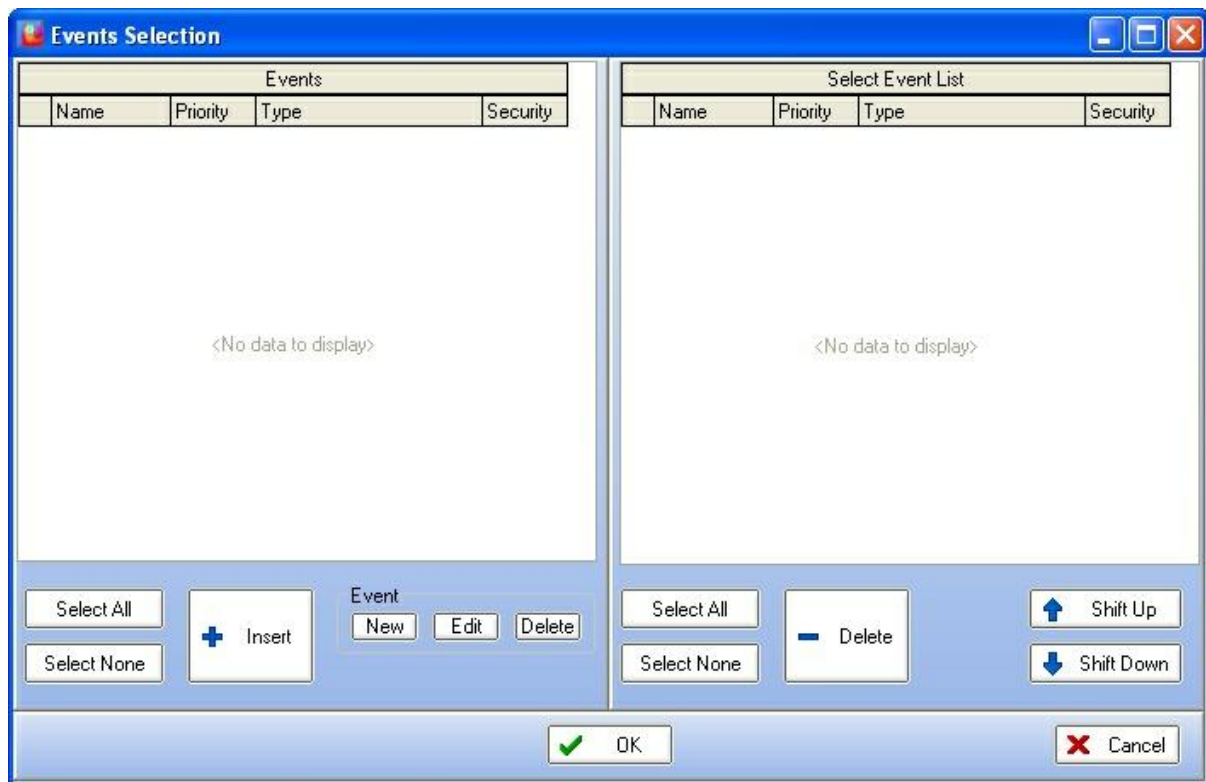
Name	External Activation	Latch Mode	Event Setting
Logic 1	Close to Trigger	☐	Start
Logic 2	Close to Trigger	☐	Start
Logic 3	Close to Trigger	☐	Start
Logic 4	Close to Trigger	☐	Start
Logic 5	Close to Trigger	☐	Start
Logic 6	Close to Trigger	☐	Start
Logic 7	Close to Trigger	☐	Start
Logic 8	Close to Trigger	☐	Start

To learn more about the Logic inputs, see How to Use Logic Inputs.

The idea is to use logical trigger to start an event. Event types for operation on music are listed below. You can find more information on those events in the chapter How To Use Events.

- · Music On
- · Music Off
- · Music On By Zones
- · Music Off By Zones
- · Toggle Music On/Off
- · Toggle Music On/Off by Zones

In order to associate a event to a logic input trigger, click on the "Start" button under "Event Setting". The Events Selection window will be open, see below.



On the left side, you will find the list of existing event. To create a new event, simply click on New under Event. As soon as you click on the New button, the software will ask to choose a event's type, see below.



In order to select an event's type, use the drop-down menu. Then click OK. After you have press OK, you will return to the Events Selection window.

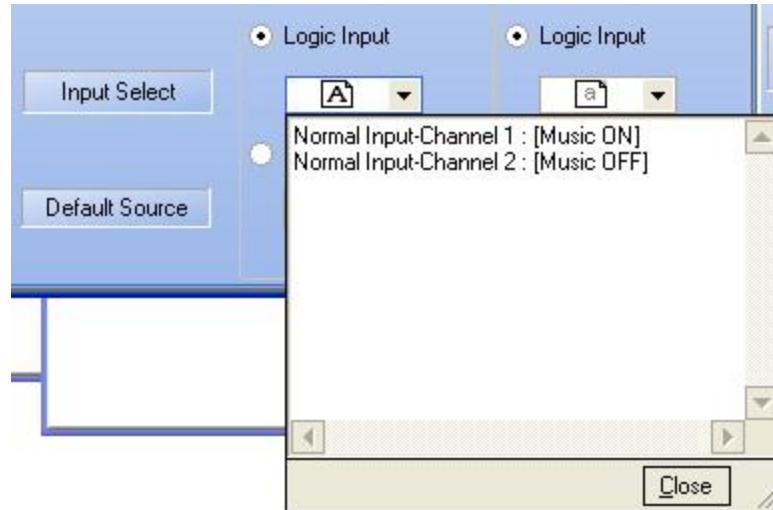
To edit your new event settings, select it by clicking on the right line and then click Edit. **Note:** don't click in the square selector.

The corresponding event's type window will pop up. After your event settings are complete, click OK.

The last step is to affiliate the event created with the logical input. In order to do so, tick the square selector and click on insert. **Note:** you can associate more than one event to an external trigger as well as creating event sequences.

To learn more about it, please read [this](#).

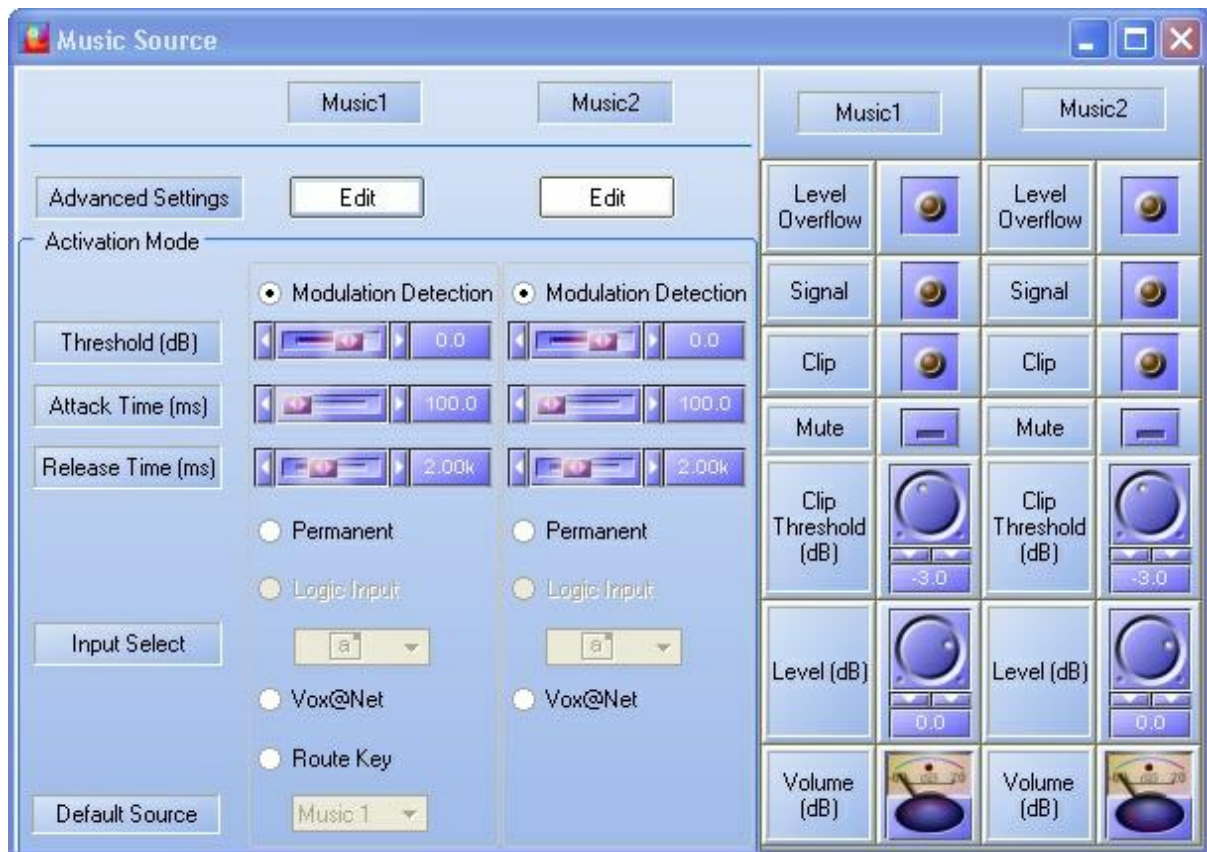
When logic input use event to control music sources, you can find a list of logic input associated to music source on the music source window in Logic Input drop-down menu.



5.7.1.5 Software Control

The DIVA software allows to control and monitor music sources. Once you have enter the music source window, by double clicking on the music source icon, you will be able to read and control some parameters (right part of the window, see below):

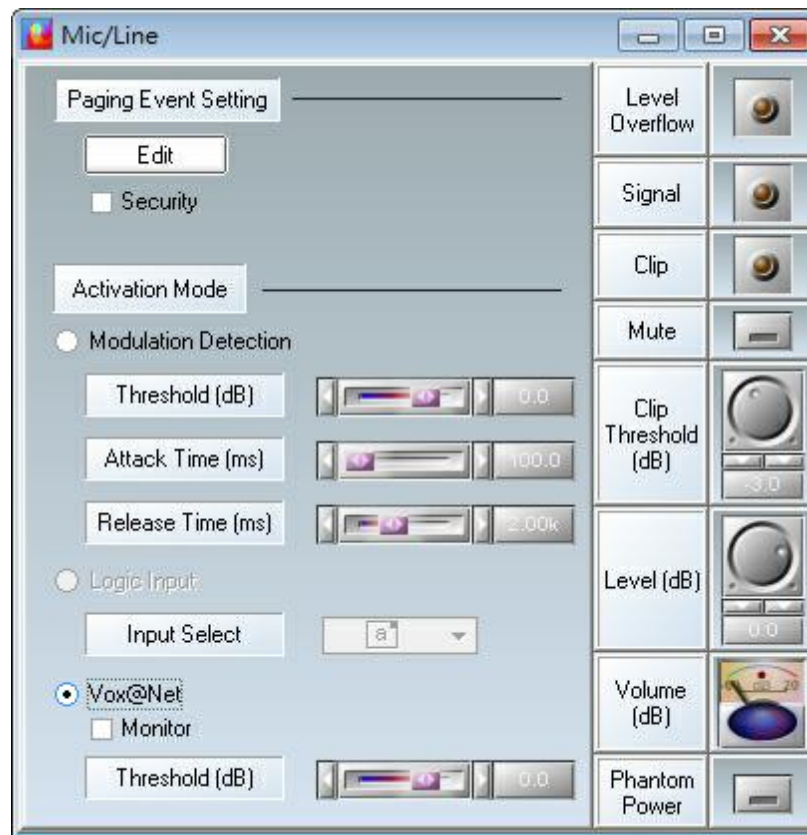
- Level (dB): when connected to DIVA, you can adjust, real time mode, the level of the music sources.
- Volume (dB): indicates the current output level of the music source.
- Clip Threshold (dB): allows to set the threshold point for the Clip indicator.
- Level Overflow: this is a LED indicators that light up when a too high level is detected on the music source.
- Signal: indicates the presence of audio signal.
- Clip: indicates when the signal is clipping.
- Mute: allows to mute music sources independently.



5.7.2 MIC/LINE Input

The Mic/Line input can be used as a direct input for one external hand microphone and as an additional music input. The input gain can be adjusted by the means of the screw on the back panel of DIVA.

In order to use the Mic/Line input, first drag and drop Microphone or Line In from the [Design Component Section](#) to the Master window. Double-click the Microphone or Line In icon to enter the Mic/Line window, see below.



The Mic/Line has three activation modes:

- Modulation Detection

The modulation detection mode is like the VOX mode. It allows you to activate a source as soon as a certain amount of signal is detected.

- Logic Input

Using music from logic input allows user to manage external trigger to control the routing of music sources.

- Vox@Net:

The MIC/LINE input can be use as audio input for Vox@net audio streaming, please refer to the [How to Put DIVA in Vox@Net](#) chapter.

By clicking the Edit Button you will enter the Mic/Line Paging Event window. Here you will be able to set up parameters of this event, see below.

Mic/Line Paging Event

Type: Mic/Line Paging Priority: 20 (Zero equals highest)

Name: Mic/Line Paging Attrib.: ☐ Security

Start Impulse Stop Impulse

☐ Enable

☒ Pulse: 50 ms ☐ Static

Device	Logic Output Channel								
	All	1	2	3	4	5	6	7	8
Master	☐	☐	☐	☐	☐	☐	☐	☐	☐

ACK Relay Busy Relay

☐ Enable

Device	Logic Output Channel								
	All	1	2	3	4	5	6	7	8
Master	☐	☐	☐	☐	☐	☐	☐	☐	☐

Conflict ☐ Cancel All ☒ Coexist

Pre Chime ☐ Pre Chime Enable [Dropdown]

Post Chime ☐ Post Chime Enable [Dropdown]

Pre-define Zone ☐ Pre-define Zone Enable

All	Master 1								
	All	1	2	3	4	5	6	7	8
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

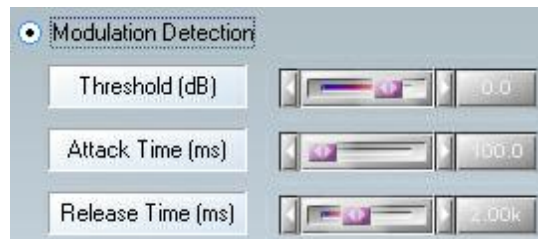
☒ OK ☒ Cancel

- **Type:** Display the type of event you are creating or modifying.
- **Name:** Here you can specify a name for the event created. Default is Event X.
- **Priority:** Here you can adjust the priority of the event. 20 is the lowest, 0 is the highest.
- **Attrib.:** Here you can specify if this event is a security one or not and if it is an evacuation event or not. See [Common Option](#) to learn more about the security option.

- **Next Event:** Here you can select the event to start after the current one is finished.
- **Start Impulse:** Ticking this option allows user to close an output contact (Logic Output channel) in two different manner. Static will close it until the event stop and Pulse will generate a closing pulse whose length can be defined from 50 to 60000 ms.
- **Stop Impulse:** This option is used to create a closing contact pulse when the event is finished. The length of the pulse can be defined from 50 to 60000 ms.
- **ACK Relay:** You can specify here an logic output channel that will be closed when the event is active.
- **Busy Relay:** Here you can specify an Logic Output Channel relay that will be closed as soon as a higher priority event is active in one of the pre-define zones. To learn more about output relay, please read the [How To Use Output Relay](#).
- **Conflict:** You can choose between Cancel All or Coexist.
- **Pre-Chime:** Allows to add a chime message at the beginning of a microphone call. Simply choose the pre-chime message from the drop down menu.
- **Post-Chime:** Allows to add a chime message at the end of a microphone call. Simply choose the post-chime message from the drop down menu.
- **Pre-define Zone:** If ticked, you can choose pre defined zone with the zone selector.
- **Zone Selection:** Here you can specify the zone(s) where the call will be played.

5.7.2.1 With Modulation Detection

The modulation detection mode allows to automatically route the Mic/Line source in case of signal presence. The behaviour is the same that for music sources.



In order to use the modulation detection, tick the Modulation Detection option for the source you want to use that way. Once the option selected, you will have access to detection settings:

- **Threshold (dB):**
The threshold setting will set the trigger point for activation of the Mic/Line source. If the threshold is set to -10 dB, the Mic/Line source activation will take place when the signal received from that source will be over -10 dB.
- **Attack Time (ms):**
The Attack time can be understood like the amount of time that the signal has to be over the threshold point before music source will be activated. A correct setting of the attack time can avoid inopportune activation of the Mic/Line source (peak signal activation). The Attack time can be set from 0 ms to 5000 ms.
- **Release Time (ms):**

As opposed to the Attack time, the Release time is the amount of time for which the signal have to stay under the threshold point before deactivation of the Mic/Line sources. A correct Release Time can avoid inopportune deactivation of the music source (pause in speech). The release time can be set from 0 ms to 5000 ms.

Setting those parameter correctly needs some experience, so be careful and please test it to learn more about the behaviour of this option.

Once your modulation detection parameters are adjusted, you have to edit the advance setting for the Mic/Line, please refer to the [Use Mic/Line Input](#) general chapter.

5.7.2.2 From Logic Input

Mic/Line routing can be operate by external trigger, that means with the help of the logic, evacuation or even external fault inputs. In order to access the logic inputs menu, go on menu View -> Logic Inputs. The Logic Inputs page will pops up, see below.

To learn more about the Logic inputs, see [How to Use Logic Inputs](#).

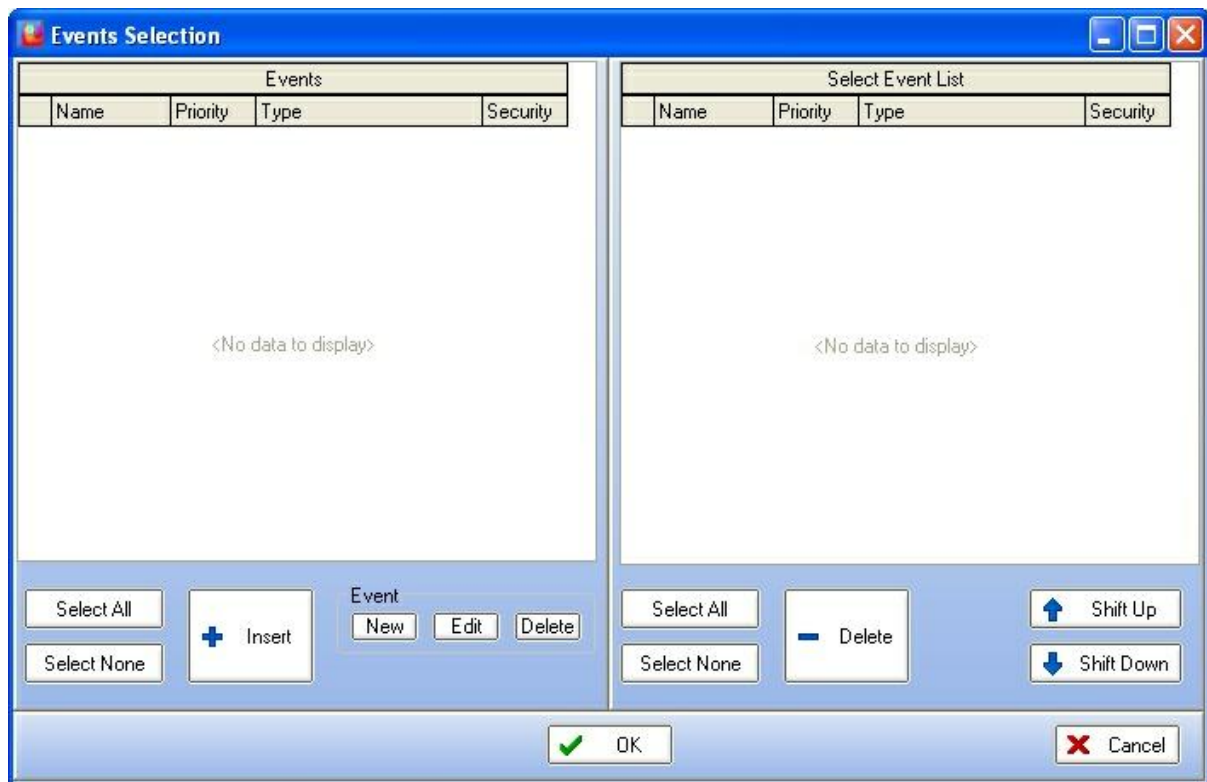
The idea is to use logical trigger to start an event. Event type for operation on Mic/Line are listed below. You can find more information on those events in the chapter [How To Use Events](#).

The screenshot shows the 'GPIO' configuration window. At the top, there are two input fields: 'Normal Logic Inputs Response Time' and 'EVAC Inputs Response Time', both set to 50 ms. Below these are four tabs: 'Normal Logic Inputs' (selected), 'Evacuation Inputs', 'External Fault Inputs', and 'Bypass Relay'. The 'Normal Logic Inputs' tab contains a table with 8 rows, each representing a logic input (Logic 1 to Logic 8). Each row has four columns: 'Name', 'External Activation', 'Latch Mode', and 'Event Setting'. The 'Event Setting' column for all logic inputs is set to 'Start'. At the bottom of the window, there is a 'Machine' label and a dropdown menu currently showing 'Master 1'.

Name	External Activation	Latch Mode	Event Setting
Logic 1	Close to Trigger	☐	Start
Logic 2	Close to Trigger	☐	Start
Logic 3	Close to Trigger	☐	Start
Logic 4	Close to Trigger	☐	Start
Logic 5	Close to Trigger	☐	Start
Logic 6	Close to Trigger	☐	Start
Logic 7	Close to Trigger	☐	Start
Logic 8	Close to Trigger	☐	Start

- [Mic/Line Paging Event](#)

In order to associate a event to a logic input trigger, click on the "Start" button under "Event Setting". The Events Selection window will be open, see below.



On the left side, you will find the list of existing event. To create a new event, simply click on New under Event. As soon as you click on the New button, the software will ask to choose a event's type, see below.



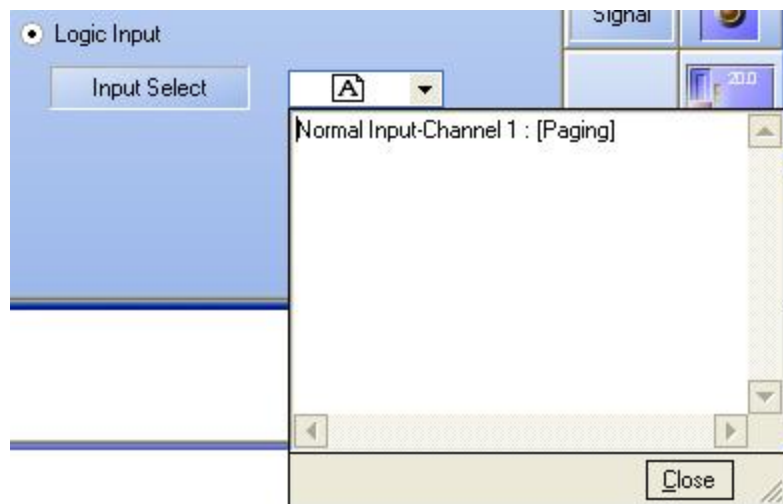
In order to select the event's type, use the drop-down menu. Then click OK. After you have press OK, you will return to the Events Selection window.

To edit your new event settings, select it by clicking on the right line and then click Edit. Note: don't click in the square selector. The corresponding event's type window will pop up. After your event settings are complete, click OK.

The last step is to affiliate the event created with the logical input. In order to do so, tick the square selector and click on insert.

Note: you can associate more than one event to an external trigger as well as creating event sequences. To learn more about it, please read this.

When logic input have set for Mic/Line source, you can find a list of logic input associated to Mic/Line source on the Mic/Line window in Logic Input drop-down menu.



5.7.2.3 From Software

The DIVA software allows the control and the monitoring of the Mic/Line source. Once you have entered the Mic/Line window, by double clicking on the Mic/Line icon, you will be able to read and control some parameters (right part of the window, see below):

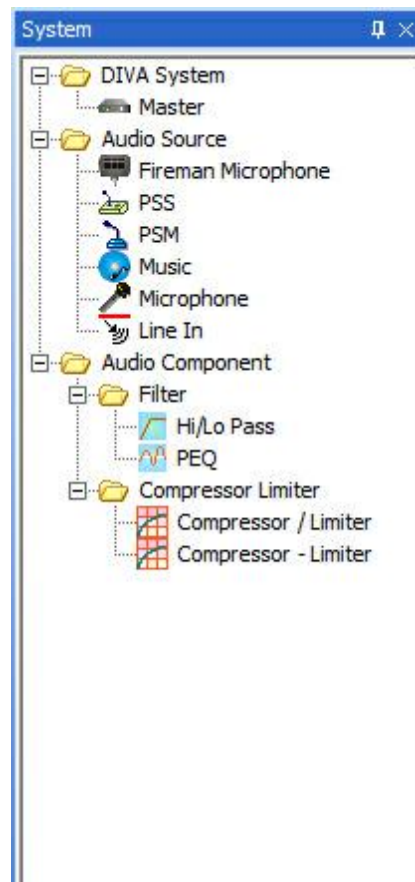


- **Level (dB):** When connected to DIVA, you can adjust, real time mode, the level of the music sources

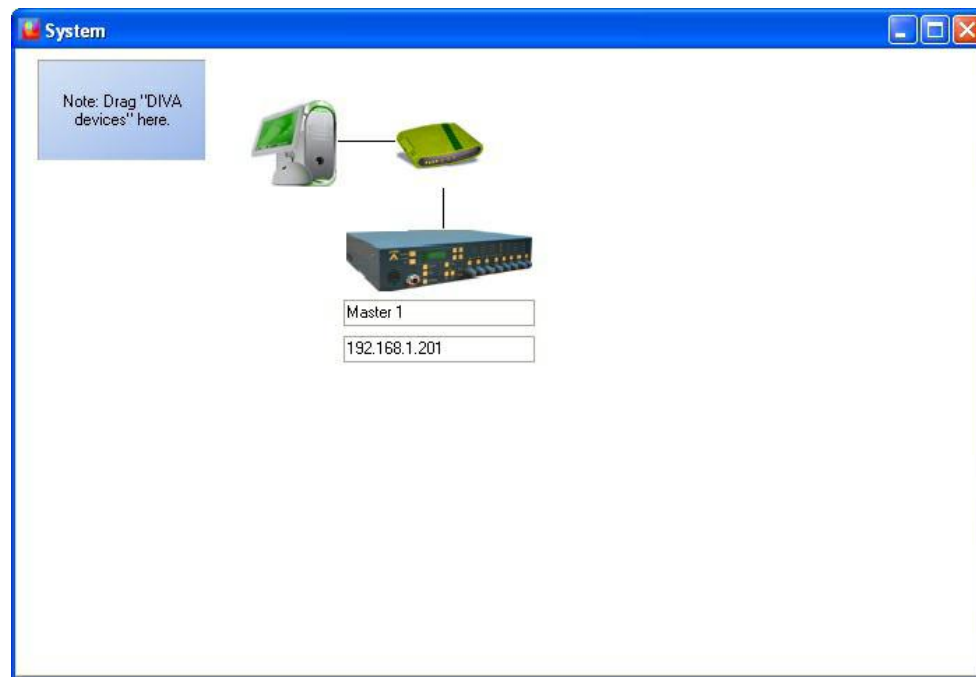
- **Volume (dB):** Indicates the current output level of the music source
- **Clip Threshold (dB):** Allows to set the threshold point for the Clip indicator
- **Level Overflow:** This is a LED indicators that light up when a too high level is detected on the music source
- **Signal:** Indicates the presence of audio signal
- **Clip:** Indicates when the signal is clipping
- **Phantom Power:** Add the phantom power to the Mic/Line input

5.8 DSP Components

After starting a new project, the "System" window is opened. On the left, you will find the Design Component Section. The DIVA software have been made to simply add/remove component. All the components are 'drag & drop' items. Each component can only be dropped in its own place.

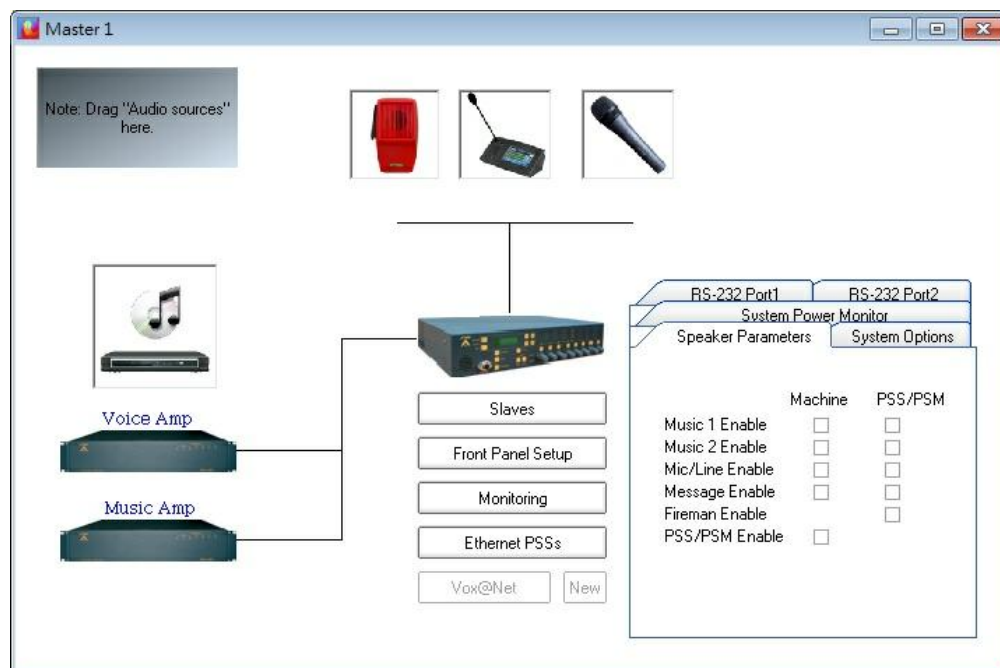


- The DIVA Slave unit can only be dropped in the System main window, see below.



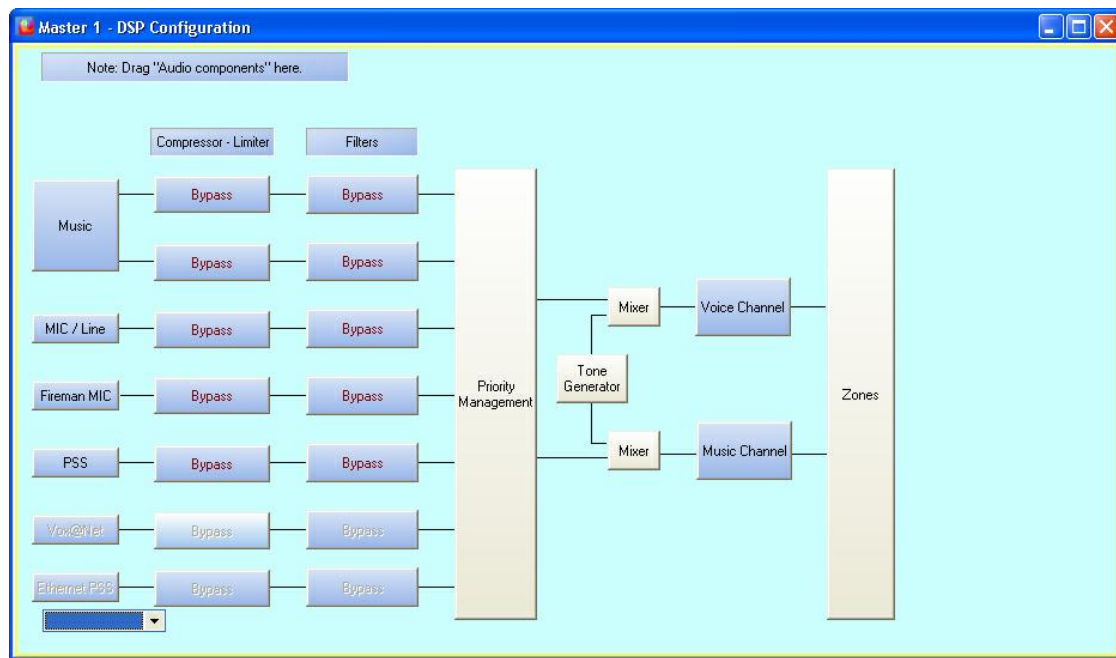
- Audio sources

(Double Click the DIVA figure to enter in this window). Items in Audio Sources folder can only be dropped in the Master window and only in the right location, see below



- Hi/Lo Pass filters , PEQs and Compressor/Limiter

(Double Click the DIVA figure to enter in this window) Items of Audio Component can only be dropped in the MASTERDSP Configuration page on existing connection, see below.



5.8.1 Filter

5.8.1.1 Hi/Lo Pass

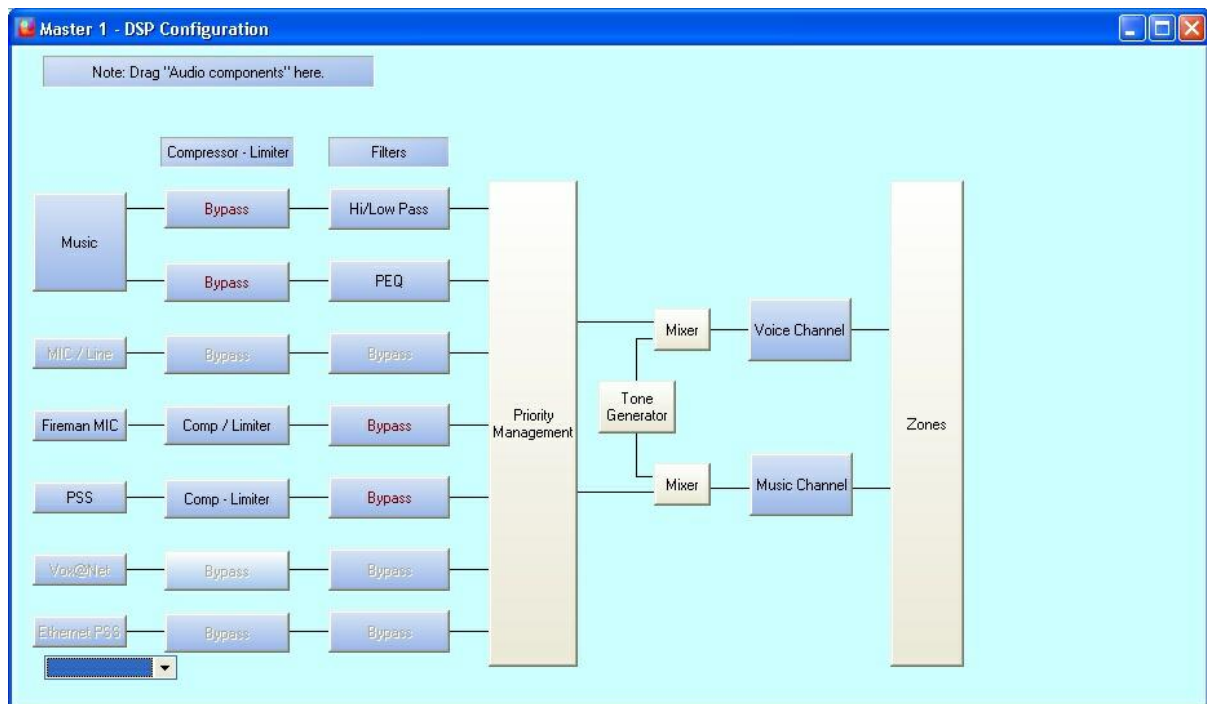
On DIVA, you can add hi-pass or low-pass filtering on audio input and on amplifier outputs in order to adjust the frequency range to your needs.

To do so, you have to access to the DSP Configuration window.

- In the Master window, double-click on the DIVA icon. The DSP configuration window will pop up.

Note: if no audio sources have been set into the configuration, the corresponding Filter and Compressor-Limiter location will display in gray.

On the left of the DSP Configuration window you can find all audio inputs and on the right amplifier outputs.

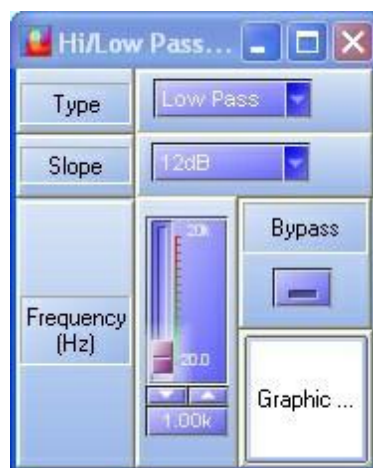


❖ On Inputs

To add high or low pass filter on audio input, drag and drop Hi/Lo Pass filter from the [design component section](#) on the Filters location, see picture below.

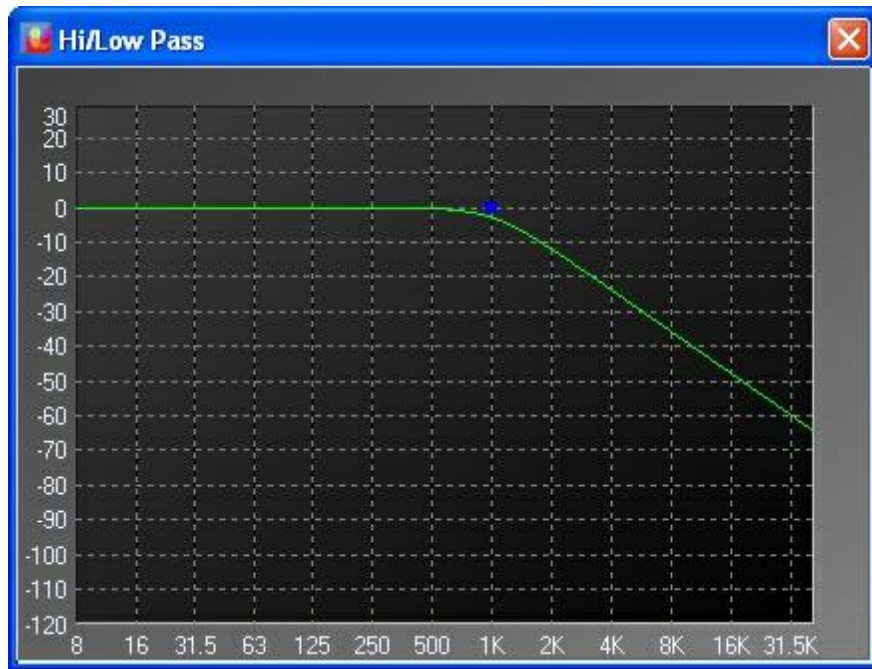
Note: you also can add high and low pass filtering by using the PEQ filter on input, read [this](#).

- Double click on the Hi/Low Pass icon, the Hi/Low pass window pops up (see below).



- **Type:** Here you can choose the filter type, high pass or low pass.
- **Slope:** Here you can specify the slope of the filter (12dB, 24dB or 36dB).
- **Frequency:** Here you can specify the filter cutoff frequency by adjusting the slide bar, using arrow keys or writing it directly in the cell.
- **Bypass:** By clicking on the Bypass button, you instantaneously bypass the filter.

- **Graphic:** By clicking on the Graphic button, you will enter the filter graphic edition window, see below. By moving the blue point, you can adjust the cutoff frequency.



❖ On Outputs

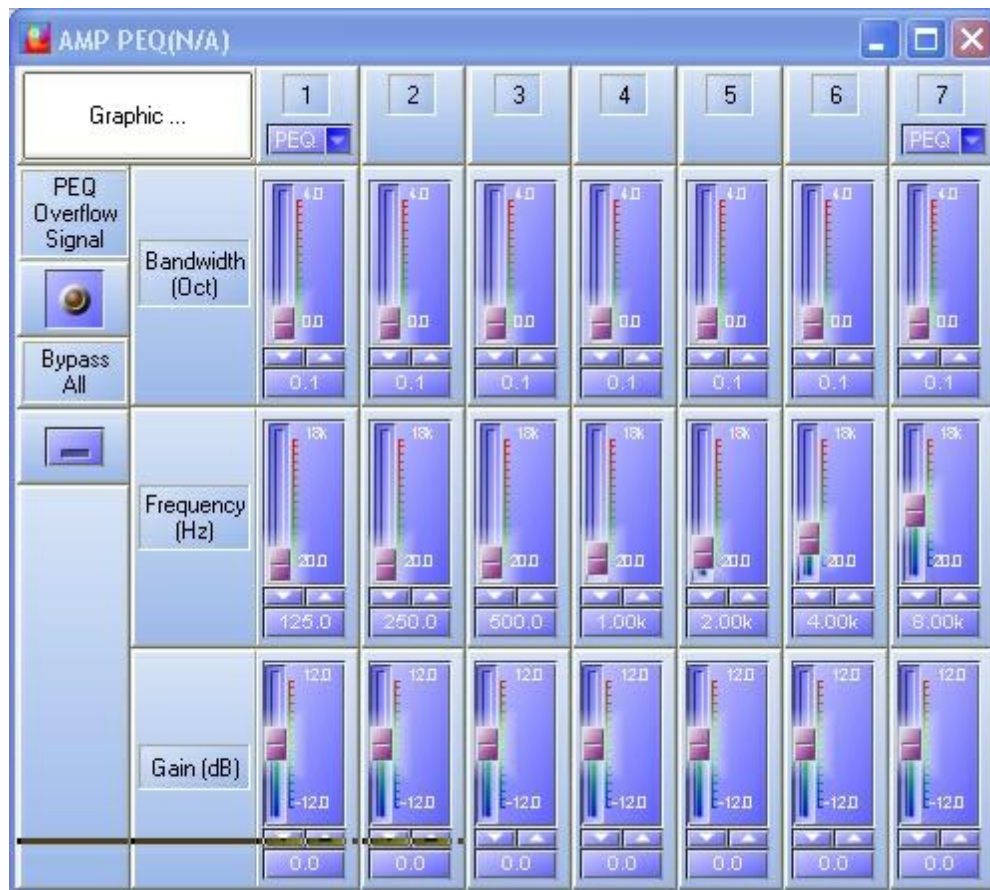
- To add high or low pass filter on audio amplifier outputs, double click on the icon: PEQ Voice Channel or PEQ Music Channel in the DSP Configuration Window. The following window pops up.

Note: more explanation about amplifier output PEQ can be found [here](#).

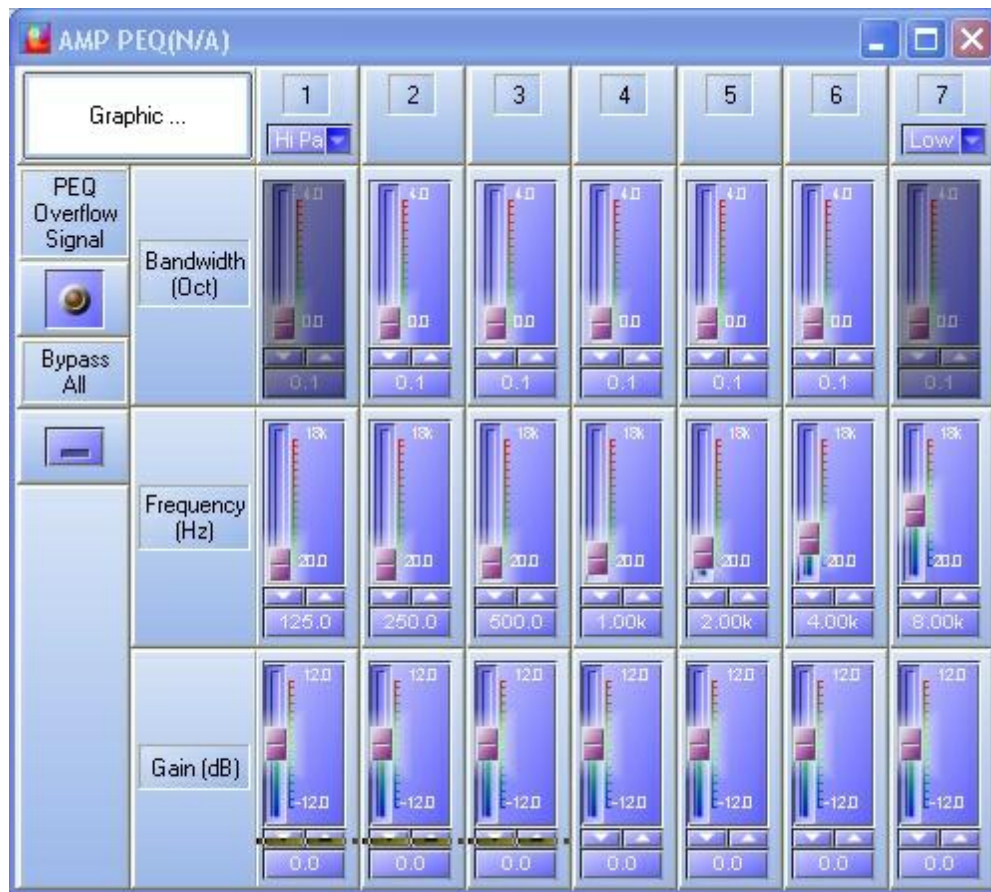
- The following window will pop-up:



- Clicking on the EQ square, will call for the amplifier equalization page.



- The first PEQ filter can be changed to a High pass filter with the corresponding drop-down menu (see below).
- The last PEQ filter can be changed to a Low Pass filter with the corresponding drop-down menu (see below).



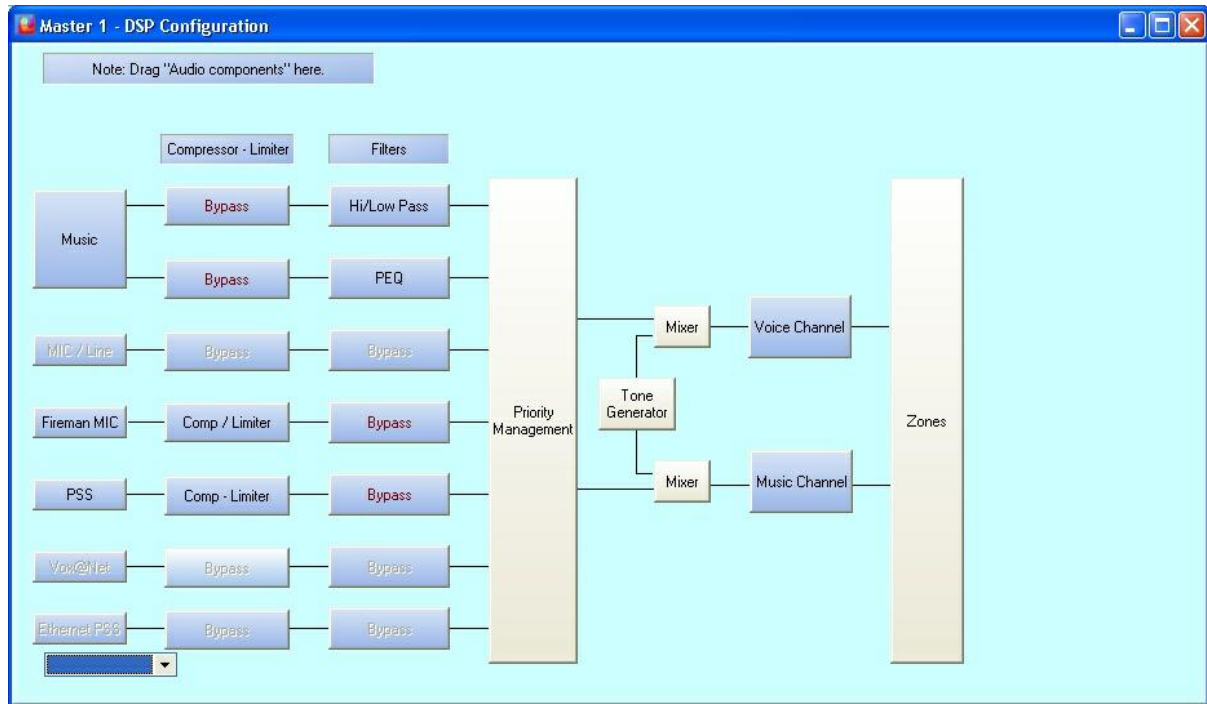
- For the low pass and high pass filter, you have access to the following settings: cutoff frequency and gain.
- By clicking on the Graphic button you will be able to adjust the cutoff frequency and the gain directly by moving the corresponding yellow cursor, see below.



5.8.1.2 PEQ

On both output channels and input sources, you can add peaking equalization. You can add a three band PEQ on inputs and use up to seven bands PEQ on amplifier outputs.

To access the PEQ on inputs, go on the DSP configuration window.



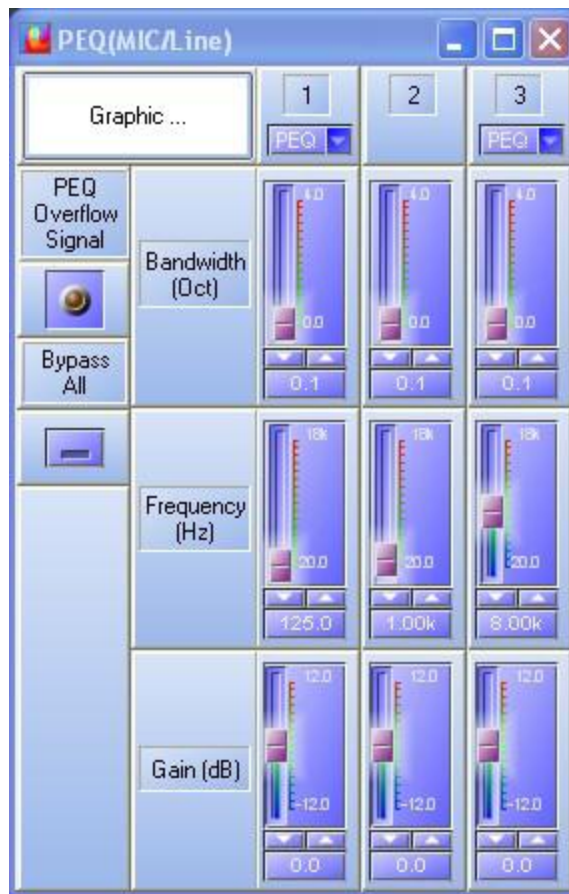
There is two ways to access the PEQs on amplifier outputs, by double clicking the amplifier icon (Voice Amp and Music Amp) on the Master window, or directly by the DSP Configuration window.

❖ On Inputs

- To add PEQ on an input, drag and drop the PEQ from the filter menu in the Design Component Section.

Note: if there is already hi/lo pass filtering on the same input, you won't be able to add PEQ on that input. On one input, you only have one filter location and can use either PEQ or Hi/Low Pass filtering.

- Double Click on the PEQ icon to enter the PEQ window, see below.



- Adjust the PEQ parameters to suit your needs.
 - **Bandwidth (Oct):** Here you can adjust the Q factor of the PEQ either by using the slide bar, arrow key or by entering directly the value in the dedicated cell.
 - **Frequency (Hz):** Here you can adjust the central frequency of the PEQ either by using the slide bar, arrow key or by entering directly the value in the dedicated cell.
 - **Gain (dB):** Here you can adjust the PEQ gain either by using the slide bar, arrow key or by entering directly the value in the dedicated cell.
 - **PEQ Overflow Signal:** Indicates if there is an overflow after the addition of the PEQ to the base signal.
 - **Bypass All:** By clicking on the Bypass All button, you will instantaneously bypass all three PEQ filter.
- The first PEQ filter can be changed to a High pass filter with the corresponding drop-down menu.
- The last PEQ filter can be changed to a Low Pass filter with the corresponding drop-down menu.
- By clicking on the Graphic button, you will enter the PEQ graphic edition window. You will be able to adjust gain and central frequency of each PEQ by moving the yellow cursor. Bandwidth is controlled by the orange cursor.



❖ On Outputs



- Adjust the PEQ parameters to suit your needs.
 - **Bandwidth (Oct):** Here you can adjust the Q factor of the PEQ either by using the slide bar, arrow key or by entering directly the value in the dedicated cell.
 - **Frequency (Hz):** Here you can adjust the central frequency of the PEQ either by using the slide bar, arrow key or by entering directly the value in the dedicated cell.
 - **Gain (dB):** Here you can adjust the PEQ gain either by using the slide bar, arrow key or by

entering directly the value in the dedicated cell.

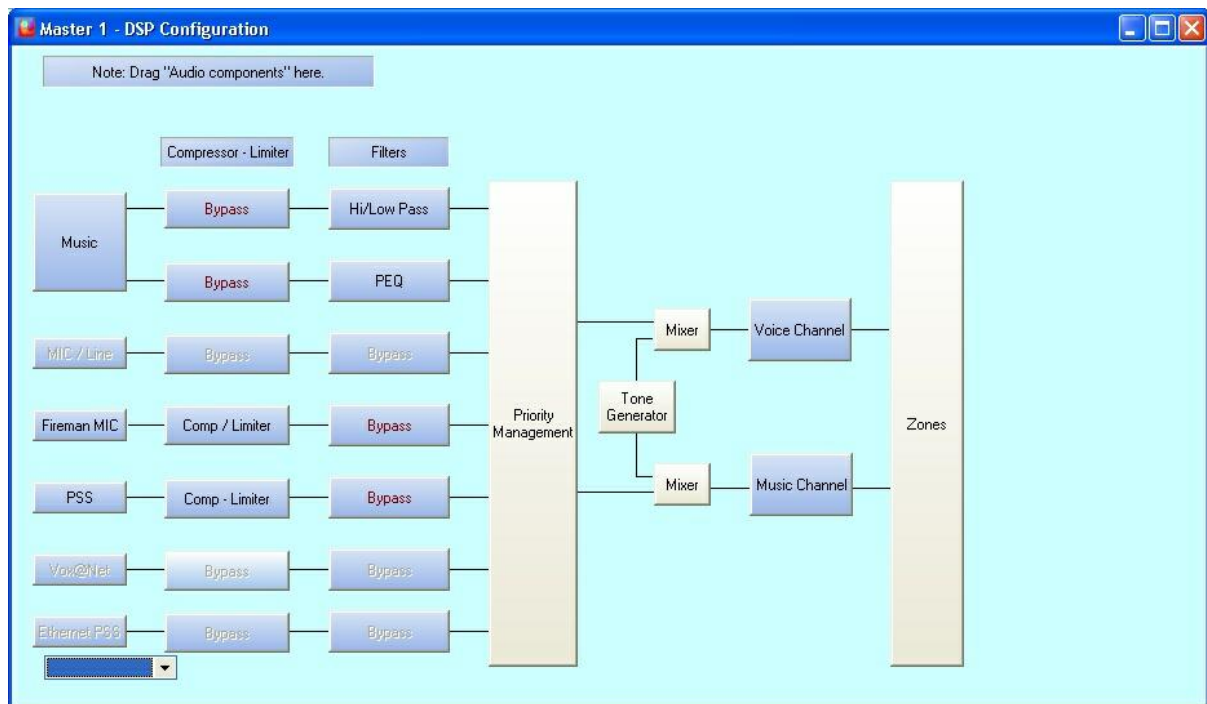
- **PEQ Overflow Signal:** Indicates if there is an overflow after the addition of the PEQ to the base signal.
- **Bypass All:** By clicking on the Bypass All button, you will instantaneously bypass all three PEQ filter.
- **Volume (dB):** Displays the real-time volume on output.
- **Level (dB):** Allows to adjust the output level either by using the slide bar, arrow key or by entering directly the value in the dedicated cell.
- **Level Overflow:** Indicates if there is signal overflow on the base signal.
- **Graphic:** By clicking on the Graphic button, you will enter the PEQ graphic edition window, see below. You will be able to adjust gain and central frequency of each PEQ by moving the yellow cursor. Bandwidth is controlled by the orange cursor.



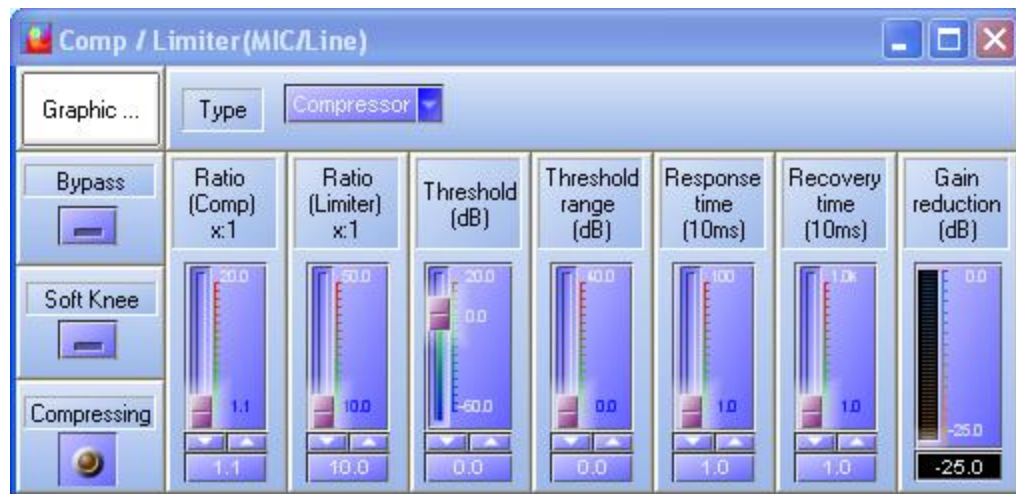
5.8.2 Limiter

In DIVA software, you can add for each audio input a compressor, a limiter or a combination of both limiter and compressor. In order to do so, please follow the next few steps:

- In the Master window, double-click on the DIVA icon. The DSP configuration window will pop up.
 - Note:** if no audio sources have been set into the configuration, the corresponding Filter and Compressor-Limiter location will be grayed.
- Drag and Drop from the Design Component Section either Compressor/limiter or compressor-limiter to the right location.
 - Compressor/Limiter is a component that is either a compressor or a limiter
 - Compressor-Limiter is a component that offers both compression and limitation
 - The DSP configuration windows should look like follow.



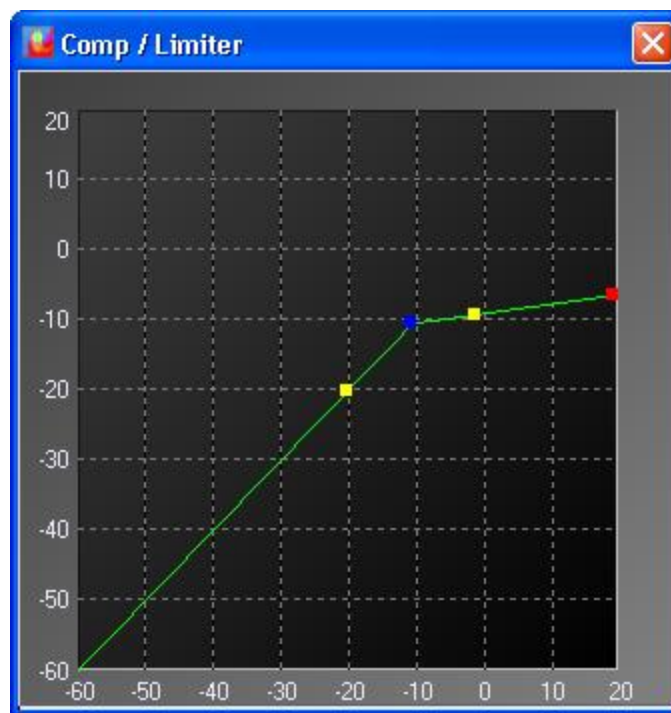
- Double click on the compressor/limiter icon, the compressor/limiter window pops up, see below. Adjust the Compressor/Limiter parameters to suit your needs.



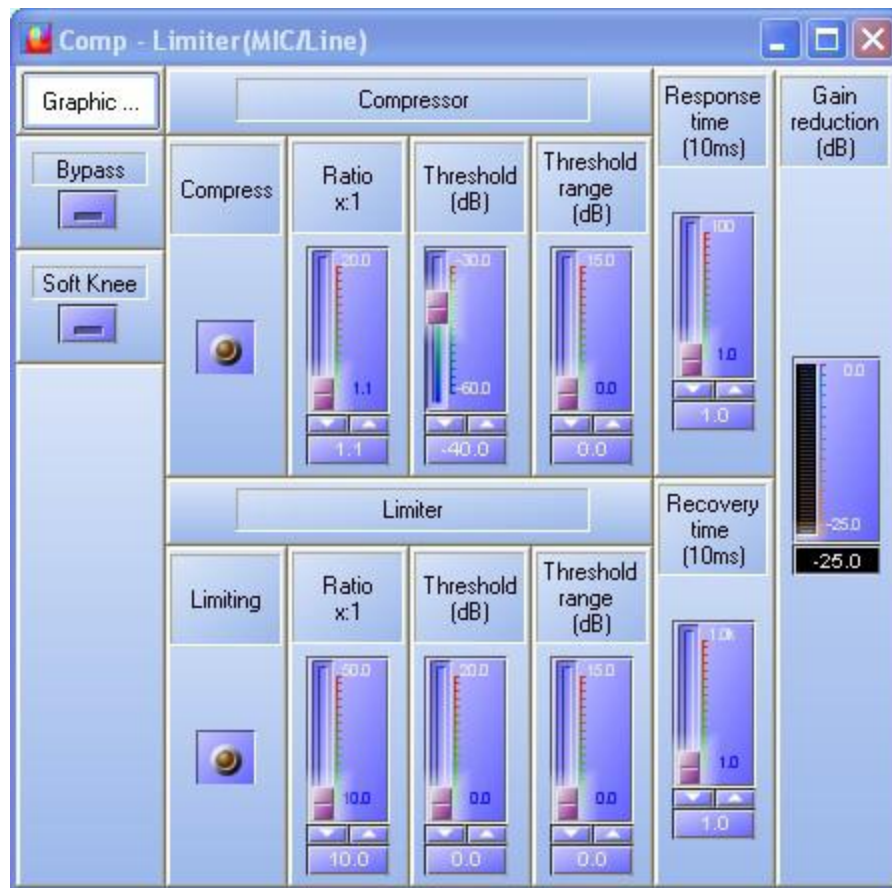
- **Type:** Here you can choose between the compressor component or the limiter.
- **Bypass:** Clicking on the bypass button will instantaneously bypass the compressor/limiter.
- **Soft Knee:** If the soft knee button is pressed, the a soft knee will be applied to the compressor/limiter instead of a hard knee.
- **Compressing:** In case of compressor, this will indicates if the compression is acting or not.
- **Limiting:** In case of limiter, this will indicates if the limiter is acting or not.
- **Ratio(Comp)x:1:** Here you can specify the compression ratio either by using the slide bar,

arrow key or by entering directly the value in the dedicated cell. Note: this parameter will have no action if the filter type is set as limiter.

- **Ratio(Limiter)x:1:** Here you can specify the limiter ratio either by using the slide bar, arrow key or by entering directly the value in the dedicated cell. Note: this parameter will have no action if the filter type is set as compressor.
- **Threshold (dB):** Here you can specify the threshold level from where the limiter or compressor will start acting.
- **Threshold range (dB):** Here you can specify the range of level, in which the ratio gradually alters from 1:1 to the value set by the ratio parameter (soft knee function) either by using the slide bar, arrow key or by entering directly the value in the dedicated cell.
- **Response time (10ms):** Here you specify the attack time for the compressor/limiter.
- **Recovery time (10ms):** Here you can specify the release time for the compressor/Limiter
- **Gain reduction (dB):** Indicates the current amount of gain reduction.
- **Graphic:** By clicking on the graphic button, this will open the Compressor/Limiter graphic edition window, see below. You can adjust the compression ratio by moving the red cursor, the threshold level by moving the blue cursor and the threshold range with the yellow cursor.

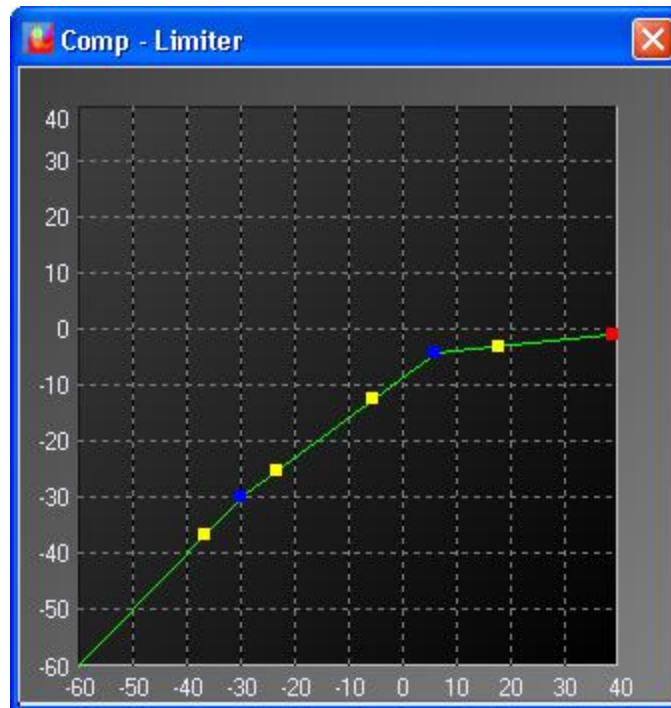


- Double click on the compressor-limiter icon, the compressor-limiter window pops up, see below. Adjust the Compressor-Limiter parameters to suit your needs.



- **Bypass:** Clicking on the bypass button will instantaneously bypass the compressor-limiter.
- **Soft Knee:** If the soft knee button is pressed, a soft knee will be applied to the compressor-limiter instead of a hard knee.
- **Compressing:** This will indicate if the compression is acting or not.
- **Limiting:** This will indicate if the limiter is acting or not.
- **Ratio(Comp)x:1:** Here you can specify the compression ratio either by using the slide bar, arrow key or by entering directly the value in the dedicated cell. Note: this parameter will have no action if the filter type is set as limiter.
- **Ratio(Limiter)x:1:** Here you can specify the limiter ratio either by using the slide bar, arrow key or by entering directly the value in the dedicated cell. Note: this parameter will have no action if the filter type is set as compressor.
- **Threshold (dB):** Here you can specify the threshold level from where the limiter or compressor will start acting.
- **Threshold range (dB):** Here you can specify the range of level, in which the ratio gradually alters from 1:1 to the value set by the ratio parameter (soft knee function) either by using the slide bar, arrow key or by entering directly the value in the dedicated cell.
- **Response time (10ms):** Here you specify the attack time for the compressor-limiter.
- **Recovery time (10ms):** Here you can specify the release time for the compressor-Limiter.

- **Gain reduction (dB):** Indicates the current amount of gain reduction.
- **Graphic:** By clicking on the graphic button, this will open the Compressor-Limiter graphic edition window, see below. You can adjust the limitation ratio by moving the red cursor, the limiter threshold level and compression ratio by moving the upper blue cursor and the limiter threshold range with the upper yellow cursor. You can adjust the compressor threshold level by moving the lower blue cursor and the compressor threshold range with the lower yellow cursor.



5.9 3rd Party Control

5.9.1 Communication Protocols

5.9.1.1 Notifier

The purpose of this document is to clarify the development tasks for communication between ATEIS Voice Alarm System (VAS) and NOTIFIER Fire Panel (FP). This document is based on the NOTIFIER Functional Specification – ID3000 Series of Intelligent Fire Alarm Control Panels – Protocol for RS232 link to third-party equipment, and on the different e-mails we exchange during the last weeks.

❖ Physical support

- RS232 interface.
- Full-duplex mode (Half-duplex mode will not be developed).
- Baud rate configurable.
- 8 data bits.
- 1 stop bit.

- No parity.

❖ Low-level Data Protocol

- Transmission from Fire Panel to Voice Alarm System
 - Start character ">" 0x3E
 - Identifier character "I" 0x49
 - Body of message Sequence of printable characters
 - End character 1 "CR" 0x0D
 - End character 2 "LF" 0x0A
- Transmission from Voice Alarm System to Fire Panel
 - Start character ">" 0x3E
 - Identifier character "I" 0x49
 - Body of message Sequence of printable characters
 - End character "CR" 0x0D
- The maximum message length (including start and end characters) is 128 characters.

❖ Full-duplex mode

- Transmission from Fire Panel to Voice Alarm System
 - No echo is expected, because of the checksum.
 - A checksum is included in the message, just before the end characters.
- Transmission from Voice Alarm System to Fire Panel
 - Each character sent, including start and end characters, is echoed by the panel.
 - No checksum is expected, because of the echo.

❖ Checksum

The checksum is the sum of ASCII codes for all the characters in the message from the identifier character "I", up to the character immediately preceding the first checksum character, inclusive.

Cyclical communication Voice Alarm System sends the following message to Fire Panel each 30 seconds. The Fire Panel answers with the Panel Status Message. The bit 2 FAULT is checked by the Voice Alarm System to display the message FIRE PANEL FAULT.

- Request VAS ">" "I" "V" "M" "02" "CR"
- Response FP ">" "I" "V" "S" "PN1" "SW4" "02" "CS2" "CR" "LF"

With

- PN1 Panel Number 1 character (value 0)
- SW4 Status Word 4 characters
- CS2 Checksum 2 characters

❖ Virtual point command

Fire Panel sends the following message if it wants to activate or deactivate an evacuation input on Voice Alarm System.

- Command FP ">" "I" "V" "C" "PN2" "VN3" "SP" "VC3" "CS2" "CR" "LF"
- Response VAS ">" "I" "V" "P" "VN3" "SP" "VS3" "SP" "00000" "CR"

With

- PN2 Panel Number 2 characters (value 0)
- VN3 Evacuation Input 3 characters
- SP ASCII Space 1 character (value 0x20)
- VC3 Command Code 3 characters
- CS2 Checksum 2 characters
- VS3 Status Code 3 characters

If the Command Code is 001 or 002, the Voice Alarm System will give no response, because of the fact that these messages are only informative messages.

Messages with Command Code 005 will not be interpreted. Only the "Mode 1" should be used to activate an Evacuation Input.

If the Command Code is 006 and the Evacuation Input is 000, the number of Voice Alarm System responses depends on the number of faulty Evacuation Inputs.

Command Code Description

000	No action, enquire status only
001	Evacuation Input has been enabled – informative only
002	Evacuation Input has been disabled – informative only
003	Deactivate the Evacuation Input
004	Activate the Evacuation Input (Mode 1)
005	Activation in mode will not be interpreted
006	Retransmit fault or unavailable message(s) for the Evacuation Input(s)

Status Code Description

000	Evacuation Input not defined within Voice Alarm System
001	Evacuation Input inactive
002	Evacuation Input waiting to go inactive after deactivate command
003	Evacuation Input request to go inactive denied
004	Evacuation Input active (mode 1)
005	Evacuation Input waiting to go inactive after activate command
006	Evacuation Input request to go active denied

❖ Status change message

Voice Alarm System sends this message in case of Evacuation Input status change (fault or out of fault, unavailable or returned to available).

- Message VAS ">" "I" "V" "P" "VN3" "SP" "VS3" "SP" "00000" "CR"
- Response FP ">" "I" "A" "C" "K" "CR" "LF"

With

- VN3 Evacuation Input 3 characters
- SP ASCII Space 1 character (value 0x20)
- VS3 Status Code 3 characters

Status Code Description

010	Evacuation Input fault
011	Evacuation Input out of fault
012	Evacuation Input unavailable
013	Evacuation Input returned to available

5.9.1.2 Modbus

The MODBUS application protocol is a well-known industry standard, see the link at [3rd Party Control](#) for more information.

DIVA master act as a slave in RTU mode (binary), either on serial port or IP. The implementation is based on a register table only.

It accepts the following public function codes:

- 0x03 Read holding registers
- 0x04 Read input registers
- 0x06 Write single register
- 0x10 Write multiple registers

And it may answer with the following exception codes:

- 0x01 Illegal Function
- 0x02 Illegal Data Address
- 0x03 Illegal Data Value

DIVA supports slave units number in its configuration file (this number is sent inside each command to modbus slaves).

The frames received are triple checked: Communication level, no answer if unit number is not the one set in DIVA protocol level, according to MODBUS specifications (exception codes) application level, according to the table supported (command/acknowledge).

All the registers are holding datas formatted as words (16 bits), and they form a table which maximum size is 64kwords. The table is divided in two parts: states and command/parameters.

The states of DIVA (faults, busy,...) can be get simply by reading the matching registers.

To trigger an action inside DIVA, the parameters must be set first, then the command register. If action is valid (ex: priority ok for a paging), then the command register is set to 0. If not, the command register is set to a negative value.

5.9.1.3 Vox@net

This document describes Vox@net/MODAN protocol, used for remote control applications.

Written by R. Seassau

The modan protocol is intended to provide communication between two public address and/or voice alarm systems. One system is declared as master, and the other as slave, and with this protocol, the master can send announcement request to the slave and also get status/faults information from the slave. At the beginning, this protocol has been developed for point to point link, but a multi-point extension has been added (1 master and more than 1 slave). All the units must handle both modes.

The physical layer is composed of 1 to 4 audio channels (mostly 0dB) from the master to the slave, and a regular RS232/422/485 serial link between master and slave. In case of multipoint configuration, serial link can be RS485 (with proper 232/485 interfaces if needed), or any suitable data network.

Serial link default values are 9600 bauds, even parity, 8 bits, 1 stop

- Definitions: STX=2, ETX=3, CR=13, ACK=6, DLE=16, NACK=21, SP=32, ENQ=5 with all values in decimal.

Upper case symbols are fixed.

❖ POINT TO POINT PROTOCOL DEFINITIONS

Commands format: STX command string ETX CS CR where CS is the checksum (exclusive or) of all characters of command string. For each command, answer can be ACK CR (executed), DLE + CR (not executed),

NACK CR (not understood). The answers are not inserted inside STX...ETX LRC CR frame.

All commands use logical zones (namely codes) to reduce the size of datas exchanged. For a very simple implementation on a small system, code 1 can be output 1 and so on. Generally a code is like a group of zones. Channel refer to 0dB audio signals.

- Slave configuration data:
 - Channel inputs (4 0dB inputs allocated to channels 1 to 4)
 - Channel priorities (4 priority levels allocated to channels 1 to 4)
 - Code zones (groups of zones allocated to codes 1 to 99)
- Announcement Request: commandstring = Pch code1, code2, code3.

For example P12 means call with channel 1 inside zones grouped on code 2, P21,3 means call with channel 2 inside zones grouped on codes 1 and 3.

If the command is executed, the answer is ACK CR (all codes were available) or DLE + CR (at least one code was not available for this channel).
- Announcement Global Clear: command string = C ch 0 0

For example, C100 means clear of announcement running with channel 1. The slave unit must memorize all the time zones requested for announcement for each channel).

When a clear command is executed, the answer can be ACK CR (all codes were occupied by the channel) or DLE + CR (at least one code has been taken by another source).
- Announcement partial clear: command string = L ch code1 , code2 , code3

For example L25 means clear zones grouped on code 5 if they are occupied by channel 2, L41,3 means clear zones grouped on codes 1 and 3 occupied by channel 4. The answer is the same as previous clear command.

- Normal level for all the channels: command string = N000

The normal level value is setup inside the slave configuration, answer is always ACK CR.

- Loud level for all the channels: commandstring=S000

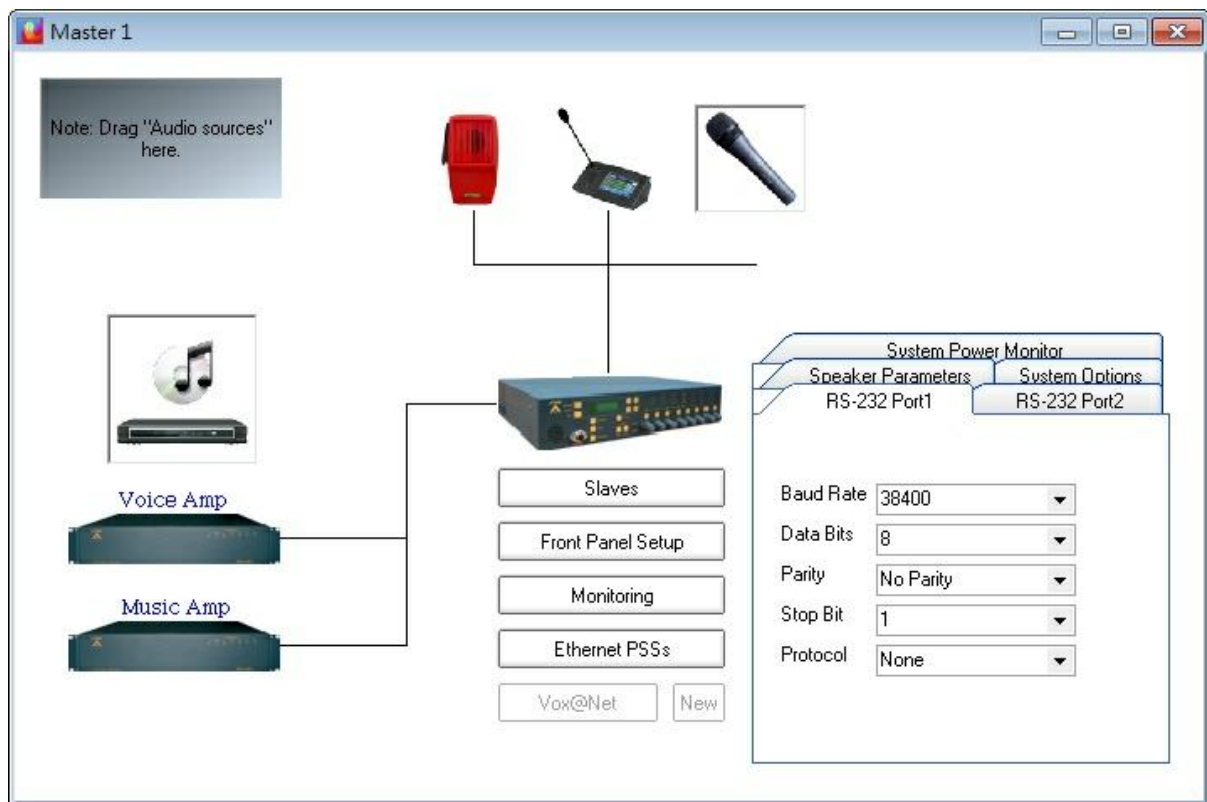
The loud level value is setup inside the slave configuration, answer is always ACK CR.

5.9.2 Use RS232 Ports

5.9.2.1 Notifier

How to set the RS232 port of DIVA to communicate with a Notifier fire panel.

- To access the RS232 port settings, click on the RS-232 Port1 or RS-232 Port2 tabs. As the settings are the same for both ports, only one will be introduced.



Procedure:

- On RS-232 Port 1, choose the Notifier protocol with the protocol drop-down menu.
- Select the same Baud Rate chosen on the fire panel. In the Notifier protocol, the baud rate can be chosen according to the needs.
- Data bit should be set to 8.
- Stop bit should be set to 1.

- Parity should be set to "No Parity".

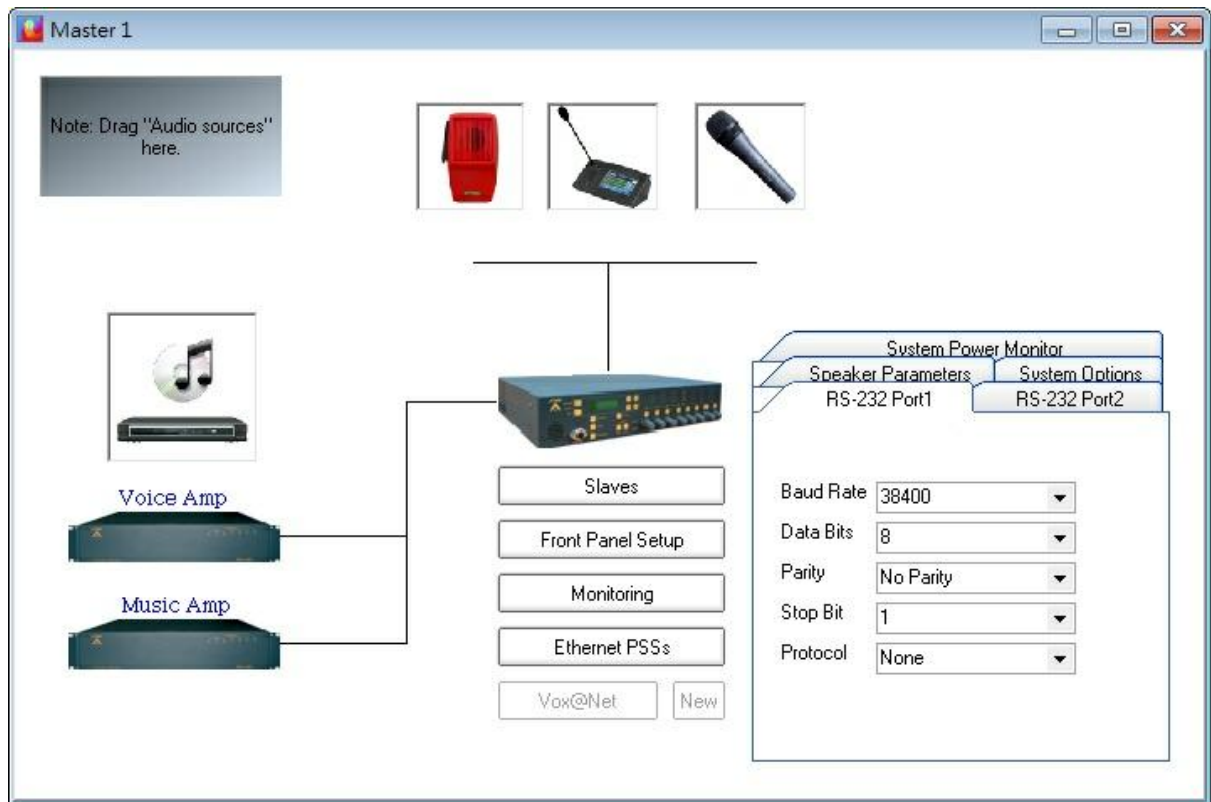
More information about the Notifier protocol and how to use it with DIVA can be found in the [communication protocols chapter](#).

The serial port pinning information can be found in [each connectors on back panel](#).

5.9.2.2 Modbus

How to set the RS232 port of DIVA to communicate with a Modbus server.

- To access the RS232 port settings, click on the RS-232 Port1 or RS-232 Port2 tabs. As the settings are the same for both ports, only one will be introduced.



Procedure:

- On RS-232 Port 1, choose the Modbus protocol with the protocol drop-down menu.
- Select the appropriate Baud Rate: for Modbus choose 9600.
- Data bit should be set to 8.
- Stop bit should be set to 1.
- Parity should be set to "No Parity".

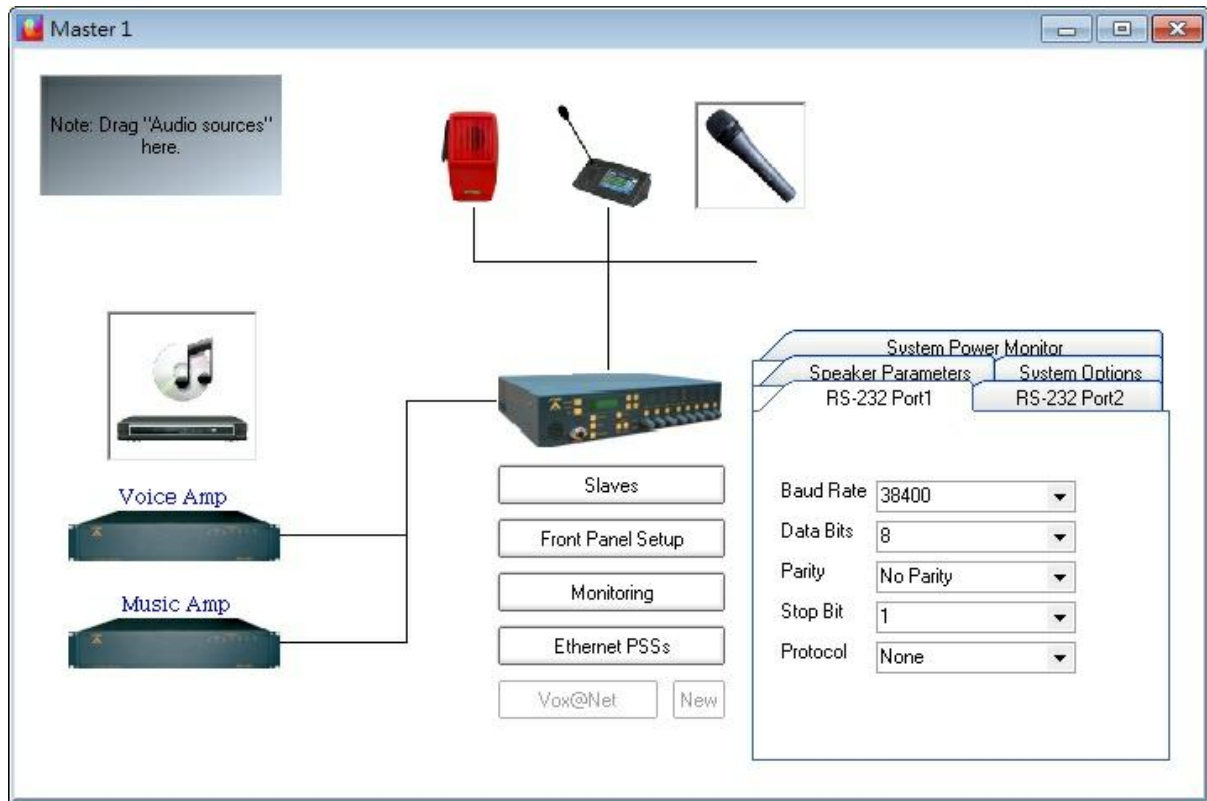
More information about the Modbus protocol and how to use it with DIVA can be found in the [communication protocols chapter](#).

The serial port pinning information can be found in [each connectors on back panel](#).

5.9.2.3 Vox@net

How to set the RS232 port of DIVA to communicate with a Vox@net server/client or in a remote access (modan protocol) configuration.

- To access the RS232 port settings, click on the RS-232 Port1 or RS-232 Port2 tabs. As the settings are the same for both ports, only one will be introduced.



Procedure:

- On RS-232 Port 1, choose the Vox@Net protocol with the protocol drop-down menu.
- Select the 9600 as Baud Rate.
- Data bit should be set to 8.
- Stop bit should be set to 1.
- Parity should be set to "Even Parity".

More information about the Vox@net protocol and how to use it with DIVA can be found in the [communication protocols chapter](#).

The serial port pinning information can be found in [each connectors on back panel](#).

5.9.3 Put DIVA in Vox@net

The DIVA system can be used as a matrix in any Vox@Net system. It can also be used in a remote access configuration using RS-232. DIVA acts as a "slave" unit in both Vox@Net and Modan.

From a DIVA point of view, the Vox@net protocol and modan protocol are equivalent.

❖ Vox@Net/Modan explanation:

The basics of those protocols communication is that DIVA receive audio stream along with RS-232 command.

So from a DIVA machine point of view, one will have to set RS-232 port setting to receive command and set audio input to be triggered by RS-232 command.

In a simple manner, RS-232 will allow to activate a music source routing in zone(s) according to the parameter sent via RS-232.

Both protocol are acting, from a DIVA point of view, as Master-Slave network in which DIVA is always a slave.

More information about Modan command could be found about Vox@Net/Modan protocol in the Communication Protocols chapter.

❖ Data transmission mode:

The Modan protocols offers two different ways of communication between devices: Point to Point and Multipoint.

Point to Point is a direct communication path between to system where Multipoint is using RS-232 bus with device dependant addresses.

Vox@net always use the Multipoint mode and remote access offers the choice between the two mode.

- In case of using Point to Point mode, no addresses are affiliated to devices in the remote access system.
- In case of Multipoint, all slave devices have a static address (range from 1 to 32).

❖ Audio Routing:

As stated before, the Master (Vox@net server/client or remote access master) send information to the slave unit in order to route audio to physical zones.

The Master sends a code that will be interpreted by the slave unit. From a Master point of view, the code sent has no zone routing information. The routing corresponding to a code is slave dependant. In Multipoint mode, it means that each slave can receive the same code and this code will be interpreted differently by each of them, see schematics below.

With DIVA, the maximum number of audio channels a Vox@net system or a remote access that can be used is three. The number of channels you need, will be determined by the number of simultaneous audio stream you wish to receive. One channel is the minimum; however a two channel configuration is most of the time the minimum audio channel configuration recommended.

6 Contact Information



<http://www.ateis.com>

ATEIS Europe BV

Address:
Sydneystraat 42
3047BP ROTTERDAM, NETHERLANDS
T : +31 (0)10 2088690
F : +31 (0)10 2088699

ATEIS France Siège

Address :
34, avenue de l'Europe, Z.A Font Ratel
38640 CLAIX, FRANCE
T : 33 (0) 4 76 99 26 30
F : 33 (0) 4 76 99 26 31

ATEIS Middle East

Address:
Light Industrial Unit 11 Dubai
Silicon Oasis,
Dubai United Arab Emirates
T : +971 4 3262730
F : +971 4 3262731

ATEIS Far East Corp.

Address:
No.60, Xinghua 2nd Rd, Tanzi,
Taichung 427, Taiwan
T : +886-4-25333820
F : +886-4-25333830

ATEIS China

Address:
Room 610, No. 255 Wubao Road,
Minxing district, Shanghai, China
T : 021-54495191/92
F : 021-54495193

ATEIS Suisse SA

Address:
Chemin du Dévent
1024 Ecublens, Switzerland
T : +41 (0) 21 881 25 10
F : +41 (0) 21 881 25 09

ATEIS Germany GmbH.

Address:
Kirchenstrasse 11
D-82194 Gröbenzell, Deutschland
T : +49 (0)8142/305070-30
F : +49 (0)8142/305070-39

Penton/ATEIS USA.

Address:
21 Sabin St. Pawtucket, RI 02860, USA
T : 401-727-1600
F : 401-727-0003

ATEIS SE Pte Ltd.

Address:
Blk 5000 Ang Mo Kio Ave 5
Techplace II #02-10
569870, Singapore, Singapore
T : +65 64811968
F : +65 64811378